The Forgotten Cave

and the Still Bay

A Technological Lithic Analysis of the Middle Stone Age Layers from Peers Cave, South Africa.

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Chapter 1: Background

1.1 Introduction

In South African Archaeology the Stone Age is divided into three phases; Later Stone Age (LSA), Middle Stone Age (MSA) and Early Stone Age (ESA) (table 1). Still Bay is the name of one of the sub-stages within the MSA (table 2). Peers Cave is a Stone Age cave site found at the very southern tip of South Africa. The site played a significant role in the pioneering studies of the South African Stone Age by the early archaeologists and antiquarians in the 1920-40's (Goodwin & Van Riet Lowe 1929, Jolly 1948)

Peers Cave as an archaeological site has however later turned out to be somewhat of a mystery. The cave was first excavated by Victor and Bertie Peers in the 1920`s. And the finds recovered from these excavations were described as nothing less than monumental. An abundant lithic sequence that stretched from the LSA through the MSA and even to the ESA. Most sensational was the quantity of the Still Bay material, the numerous bifacial points that defines this sub-stage. Cave paintings, beads, ochre and skeletal remains of nine human burials was also amongst the discovered material (Peers 1927, 1928, 1929, Goodwin 1929, Jager et al. 1941, 1942, 1944, 1949). The cave was at that time seen as one of the most important discoveries yet found in South Africa (Jager et al. 1944: 5). *"It will be a long while before so perfect a discovery as that made by the Peers is repeated"- Sir Arthur Kieth* (Jager et al. 1949:1). However, Peers Cave promising prospects were never fulfilled. The excavation records were never fully completed or published, and further work was more or less abandoned. Even later excavations at the cave failed in fulfilling the expectations. For some reason, Peers Cave went from the spotlight to the shadows, and became forgotten.

The Still Bay has a long lived history in South African archaeology, early recognised as a unique Stone Age industry by the typologically distinct bifacially worked points (Minichillo 2005: 100). However, the true significance of the Still Bay first came to light with the more resent discoveries, in particular the excavation of the site Blombos Cave. The evidence recovered here, along with Still Bay points, suggested modern human behaviour in a period dated to 80.000 – 70.000 years ago (Deacon & Deacon 1999: 87-106, Henshilwood et al. 2001, Mitchell 2002: 71-106, Marean & Assefa 2005, Pettitt 2005, Henshilwood 2007). This new evidence has challenged the earlier models of modern human origins and evolution, but still more research is needed in this field, especially in the form of technological analysis known as chaîne opèratoire. This method specifically deals with social and symbolic aspects

of stone technology, and has for many years been lagging behind in South African archaeological research (Dobres & Hoffman 1999, Mitchell 1995: 74). Even with this new found interest in the Still Bay, few attempts have been made in researching the Peers Cave Still Bay material. Rumours about the ill state of the Peers Cave museum collection, and the poorly recorded excavation notes, have basically resulted in Peers Cave being written off as a lost cause. In my opinion such a plentiful collection must have more to offer, and it's about time Peers Cave was revisited.

What happened here? Why was the famous Peers Cave forgotten, and is the remaining collection utterly useless, or is it possible to apply a formal analytical method to this lithic material? The main objective of this thesis is to unravel the mystery of Peers Cave, and to document the content and evaluate the state of the remaining lithic collection, with a particular focus on the Still Bay. The early excavations will be back tracked, and the mistakes recorded, in order to make a realistic picture of what the current collection represents. Which MSA lithic sequences were present at the site and/or which are missing compared to the early descriptions. In addition, research questions concerning the production, place of manufacture and function of the bifacial points, will be addressed through a technological analysis. Typological and technological classification combined with a refitting and macro fracture analysis will form the methodology to address the research questions.

Later Stone Age (LSA)	2000-22.000 ya
Middle Stone Age (MSA)	22.000-250.000 ya
Early Stone Age (ESA)	250.000-2.500.000 ya

Table 1. The dating of divisions of the South African Stone Age. (Deacon&Deacon 2003: 6) (ya = years ago)

Singer & Wymer (1982)	**Volman (1984)**	**Wurz (2002)**	**Henshilwood (2005)**	**Chronology**
MSA III & IV	Post-Howiesons Poort	Post-Howiesons Poort		65.000-22.000 ya
Howiesons Poort	Howiesons Poort	Howiesons Poort		< 70.000 ya
		Still Bay	Still Bay (M1) Still Bay (M2)	< 80.000 ya
MSA II	MSA 2a	Mossel Bay		< 100.000 ya
MSA I	MSA 2b	Klasies River		< 115.000 ya
			"yet to be described" (M3)	125.000 ya
	MSA 1			?

Table 2. Different terminology for the sub-stages of the MSA for the Cape coast, adapted from Wurz (2002), with resent additions from Blombos Cave (Henshilwood 2005).

1.2 Location of Peers Cave and MSA environments

On the south western shoreline of South Africa lies the Cape peninsula. The Cape peninsula divides the Atlantic- and the Indian ocean. The very tip of this peninsula is Cape Point (Cape of Good Hope) where the two oceans meet. Approximately in the middle of the peninsula, along with the eastern shoreline, lies the town of Fish Hoek (Figure 2 and 3). Peers Cave, also known as Skildergat or Fish Hoek Cave, is located at S 34˚ 07′ 11″, E 18˚ 24′ 52″on a hilltop in the Fish Hoek Valley, about 3 km west from the town Fish Hoek, and 24 km south of Cape Town (Volman 1981:166). The cave is about 30m wide 13.5 m deep, and 3.6 m from the cave floor to the roof prior to any excavations. The cave lies about 171 m above present sea level (Jager et al. 1941:5)

Figure 2: Map over the Western Cape, South Africa. From google earth.

The Fish Hoek valley crosses the Cape peninsula, and the view from Peers Cave stretches all the way from Chapman's Bay and the Atlantic ocean in the west, across the Fish Hoek valley to False Bay and the Indian ocean in the east. However, the view from Peers Cave of the costal shorelines would have been a different one in the MSA. Both Chapman's Bay and False Bay would have been dry land, due to lower sea levels from the Late Pleistocene to the beginning of the Holocene. From 80 000 – 20 000 years BP the sea levels varied from 30 to 120 meters below present sea level (Deacon and Deacon 1999:23). The shallow waters from Cape Point to Cape St. Francis would all have been dry land during the maximum Pleistocene depression of sea-levels (Mitchell 2002: 11). Thomas J. Minichillo (2005:121) argues that these new large costal grass plains would have attracted grazing herd animals to move

through the valley. Being the highest peak in a valley that functioned as a migratory pathway for heard animals, it would basically provide them a 360° view of the surrounding plains with these animals. This formidable overview from Peers Cave would undoubtedly have given the hunters favourable odds.

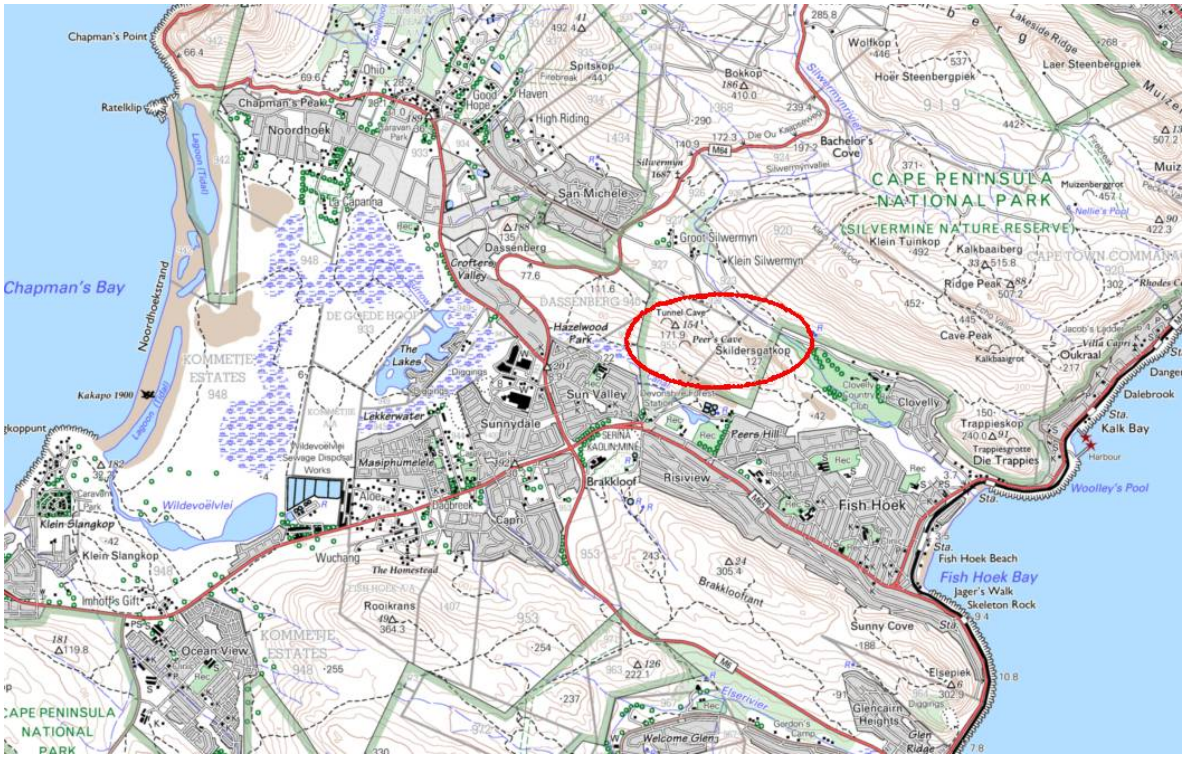

Figure 3: Map over the Fish Hoek Vally, location of Peers Cave outlined. (Chief Directorate: Surveys and Mapping**.** South Africa)**.**

Figure 4: South western view from the cave mouth. Chapmans Bay and Fish Hoek Vally. (Photo by Hege Andreassen).

Not only was the location of the cave perfect for the MSA peoples way of living, the cave it self is very spacious, and would have functioned as a shelter for the sun and the shifting weather.

The Western Cape region falls under the winter rainfall cycle (May- August), as it has for the last 2.6 million years (Mitchell 2002: 25). The typical vegetation here is Fynbos, grass and bushes growing in a rigid terrain where the soil is low in nutrients. The Cape Fold Mountains belt separates the western- and part of the southern Cape from the inland plateau the Karoo (the Karoo have a more desert-like vegetation, and are more susceptible to drought) (Mitchell 2002: 14). However, the shifting climate of the MSA (table 3) could have lead to alterations in vegetation, and the abundance of various animal species. According to paleoenvironmental research theory, these alterations could have acted as a catalyst for cultural change within a society or group (Lowe 2001: 9). The most pronounced climate change in the MSA is the 5000 years between 80.000 - 75.000 BP, where the climate changed from warm to very cold temperatures. This time span is also where we find substantial changes in lithic technology, the first signs of art and symbolic behavior; The Still Bay.

Epoch	***BP***	***Climate***	***Age***
Holocene	0-12.000	Globally warm	**Historical times - Iron Age - Later Stone Age**
Late Pleistiocene	12.000-118.000	12-32.000 Very cold 32-64.000 Cold (with warm oscillations) 64- 75.000 Very cold 75/80-90.000 Warm 90-105.000 Cool 105-112.000 Warm 112-118.000 Cool	**Later Stone Age - Middle Stone Age**
Middle Pleistiocene	118.000-780.000	118-130.000 as warm as present	**Middle Stone Age - Early Stone Age**
Early Pleistiocene	780.000-1.800.000		**Early Stone Age**

Table 3: South African geological time and climate. (Deacon &Deacon 1999: 20, 22, Volman 1984: 171)

There are a number of excavated sites of areas and shelters in the Fish Hoek Valley, One is Tunnel Cave, situated on the same hilltop as Peers cave approximately 150-200m west. Some of the other sites near the Cave (Peers Cave) are sometimes referred to as Peers Cave,

Skilde(r)gat and Fish Hoek cave. I will consistently use the name Peers Cave. And in order to avoid more confusion, and to limit the material for my study, when ever Peers Cave is mentioned here I only refer to the main Shelter/Cave excavated by the Peers as Shelter A/101. Not including all the excavated areas and shelters near the cave site.

1.3 Victor and Bertie Peers

In 1899 Victor Peers came to South Africa from New South Whales to take part in the Boar war. Having been wounded, he was brought to Tasmania where he married Miss B. Myles in 1902 (Jager et al. 1949: 7). In the early 1920's Victor returned to South Africa with his wife and two children; his teenage son Bertie, and younger daughter Dulcie (Greenland 1978: 5). The family settled down in Fish Hoek, where Victor joined the South African Railways. Victor Peers was a botanist, and quickly enveloped a fascination for every living being in the new African flora and fauna. The years they spent and lived in Fish Hoek, Victor and his son Bertie Peers devoted all their spare time to explore and study the untouched Fish Hoek Valley with its abundant plant- and animal life. Bertie had inherited his father's love of nature and animals, particularly snakes which the family also kept as pets in their home. It was in 1926 on one of these expeditions that Victor and Bertie Peers stumbled upon the legde-shaped cave that would change their lives. From the cave mouth they were able to see the whole sweep of the valley, remnants of rock paintings on the cave wall, and beneath their feet were piles of broken shells (Greenland 1978: 7).

Figure 5: Bertie Peers with one of his pets. (Jager et al 1949:8)

There seems to be a leap in history here, in order to establish how the excavations of the Cave in fact started. According to the book written by Cedryl Greenland (1978: 9) in memory of

Dulice Peers, the story continues: *"Soon it became an absorbing passion that filled every moment of their spare time – at first sifting trough the mounds of shell and rubble, where they found many fascinating relics of the past…"*It seems like the Peers had adopted a new hobby; amateur archaeology. They worked their way through the whole midden, collecting artefacts until they found three adult skeletons. After the LSA midden layer containing stone implements of the Wilton type was removed, large rock fallings where uncovered. They then saw the need to blast away the rocks using dynamite, in order to reach the lower levels. This work was apparently done by professionals. While the blasting was progressing, the Peers' started to study archaeological excavating technique, to prepare themselves for further excavations (Geenland 1978: 15).

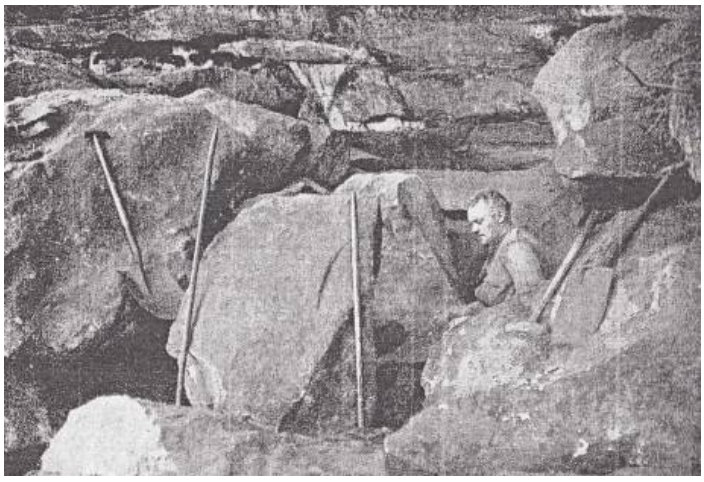

Figure 6: Victor Peers in his cave, amongst all the rock fallings that would later be blasted away (Jager et al 1949: 12).

In an article by Janette Deacon and Mike Wilson (1992: 2) it is claimed that in fact Professor John Goodwin at the University of Cape Town first excavated a trench from the front to the back of the cave in 1925, but that further work was abandoned as it proved to be inconvenient. Also that he had encouraged the Peers' to continue excavations at the Cave in 1927. I have not seen this report by Goodwin, referred to by Deacon and Wilson. And it seems to be no doubt in the rest of the literature, that it was in fact the Peers' that discovered the cave, and first started digging. In an unpublished preliminary report by Goodwin (1929: 1) he states that the Peers' first attempt at excavation was at Skildergat Cave (Peers Cave), but as the cave proved to be an immense task, they started practising their excavation techniques in a few close by shelters. He also writes that the Peers' had over a number of years collected specimens for the British-, South African-, Albany-, and Port Elisabeth museum. If these specimens were only of zoological matters, or if they also included archaeological artefacts, he does not say.

So it seems like the Peers' more or less dug out the LSA layers from Peers Cave, without any formal archaeological methodology. And first after the numerous finds had arisen awareness and interest, they set themselves to learn the skills of excavation (probably encouraged by Professor Goodwin). While they studied their excavation methods, and also practised these methods in other areas near the cave site, Peers Cave and the lower layers were exposed to numerous explosions (Peers 1927: 4, Jager et al 1944: 10). When the time consuming work of blasting and removing the embedded rock fallings from the cave had finished, Victor and Bertie Peers could resume their volunteer work as hobby-archaeologists in May 1927.

With new techniques, Victor and Bertie documented every step as they continued the excavation. Underlying the "midden"-layer (6-7 feet), was a compact layer of sandstone granules, dark in colour, and with almost no shellfish deposits. They had to use spades and picks to break the hard mass of 18 inches in thickness. The stone artefacts recovered from this layer were described as being of the Howiesons Poort and Still Bay cultures (Jager et al 1939, 41, 44, 49). They found six more human burials (nine in total). They all seemed to belong to the overlying layers of the LSA "standlopers", buried into the MSA layer. However there was one exception. One male burial was buried deeper, and the skeletal remains was different and clearly more decayed than the others, it also seem like the burial derived from the first Still Bay layer and buried into the lower intervening layer of Howiesons Poort. This skeletal, no. 4 (Fish Hoek Man) would come to bring the Peers' world fame.

Figure 7: Victor Peers excavating the famous "Fish Hoek Man" (Photograph form the archives of Fish Hoek Vally Museum).

Fish Hoek Man was believed to be from the MSA Still Bay culture (a bifacial point was found with the skeleton), and as the skeletal remains apparently proved it to be, the ancestor of the Bushman-race. *"Of all the evolutionary products of humanity known to us the Bushman type is the most remarkable. In its ancestral form (as exhibited by 'The Fish Hoek Man') it is the largest-brained type of humanity so far discovered". – Professor Sir Arthur Kieth.* (Jager et al 1949: 12). The news of Fish Hoek Man travelled the world, Victor and Bertie Peers weere famous and honoured by the archaeological societies. When visiting archaeologists were attending the 1929 joint meeting of the British and South African Association for the advancement of Science, they all went directly to the Cave before going anywhere else (Deacon & Wilson 1992: 2). The Peers' continued their excavations in the cave in1929, until they reached a depth of about 3 m, they then put a trench into the talus deposits close to the cave mouth where they reached a depth of 6 m. A few rough specimens of the "Stellenbosch period" of the ESA where collected here (Greenland 1978: 16).

Figure 8: (above) The skull of Fish Hoek Man. (Jager et al. 1949: 2)

Figure 9: (right)Bertie Peers in the Talus Trench (Photograph from the archives of Fish Hoek Vally Museum).

By the 1930's Victor Peers health had deteriorated and Berite Peers had reassumed his hobby of zoology. In 1939 Bertie was bitten by one of his own cobras, and died the same day. His father Victor died a year later in 1940 (Greenland 1978:32-34). The only two men who had

first hand knowledge of the cave and its contents, had perished. The only thing that was left of Peers Cave was the collected materiel and some handwritten notes from the excavations.

1.4 Prior research on Peers Cave

Goodwin had published a preliminary report based on the Peers' notes in 1929. However, little more was done in researching the material in the later years. Before his death, Victor Peers gave the LSA skeletons found in the cave to the University of Cape Town, and the stone implements and 'Fish Hoek Man' to the South African Museum (Jager et al. 1949).

From 1941, at the initiative of Mr. H. S. Jager, a small booklet was published in memory of Victor and Bertie Peers. This booklet was also a witness of the prehistoric evidence found at the cave, with comments from leading authors in the field, and a guide to Peers Cave to make the cave more assessable to visitors. Four editions of this booklet weere published, from 1941-1949. On the front page of the 1st edition reads: *"The explorations of this Cave is not yet complete, but it promises to be the most remarkable cave site yet found in South Africa" – J. C. Smuts* (Jager et al. 1941:1). Over ten years had past since the Peers had finished their excavations at the cave, but there where still no formal publications.

In 1947-48 an archaeology graduate from The University of Cape Town, Keith Jolly carried out further excavations at the cave. The objective of the excavation was to obtain a clear picture of the sequence of the different LSA and MSA industries (Jolly 1948:106).The Cape MSA artefacts had aroused considerable interest in the different types and industries, but most of these artefacts had come from unstratified surface sites, with exception of Peers Cave. According to the Peers excavation notes, there was a small untouched area in the western end of the cave. However, before the excavation could begin, Jolly had to spend two weeks just cleaning out inn-fillings and rock fall left from the Peers excavation in order to expose the unexcavated area (Deacon & Wilson 1992: 3). Nevertheless, when excavating Peer Cave, Jolly (1948) found that the LSA Wilton industry, with its small cresents, thumbnail scrapers and the usual microlithics, were directly overlying the MSA Howiesons Poort industry (though separated from each other in patches of midden refuse). The Howiesons Poort industry weere again clearly overlying the Still Bay, and not as the Peers' had described it as an intrusion between the Still Bay layers (Jolly 1948: 106). In terms of the Still Bay there were, as the Peers had noticed, variations. Below the Howiesons Poort layer, small refined bifacial and some unifacial lance points appeared. But these seemed to differ from the lower Still Bay layers where bifacial and unifacial points were more frequent in numbers and larger in size. At the greatest depth reached (81 inches below base line) was a

MSA industry containing crude cores, heavy flake-points, triangular points and signs of retouch varied from little to nothing.

Despite the effort of Mr. Jolly's re-excavation, only a small article (two pages in length) was published, in the South African Archaeological Bulletin 1948, where the new knowledge of the LSA and MSA sequence of industries at Peers Cave were described. Sadly, the lithic sequences were the only purpose of the excavation, and still, even this was researched to a minor degree.

In 1963 an American doctoral student, Barbara W. Anthony, decided to undertake yet another excavation of the cave. Anthony's main objective was to locate within the cave a MSA Still bay assemblage, with associated charcoal that would provide the first dating of a Still Bay industry done by a C-14 dating method (Anthony 1963: 2). The first problem she encountered was to locate undisturbed deposits, as she had no written records from the two previous excavations. She chose two areas covered with boulders, in hope to find undisturbed layers underneath Trench 1 and Trench 2. Trench 1 was located near the cave entrance, towards the eastern wall. While excavating this area, she found that Trench1 turned out to be:*"an unsatisfactory working area due to disturbed earth, large roots and many boulders"*(Anthony 1963: 2). Anthony later also found out that Trench 1 was partly situated in the Peers' Talus Trench that was now filled up with rubble. She then continued the excavations in Trench 2, located within the cave near the western wall. Situated in between the presumed area of the Jolly excavation, and overlapping with the presumed area of the Peers excavation (figure 10).

Two main layers were described by Anthony when excavating Trench 2: a crumbly earth from tan to dark brown, and underlying it, a tan to yellow sand. Both layers were apparently filled with thousands of Still Bay artefacts (Anthony 1963: 4). Within these layers, at a level of 4 feet, she encountered hearth debris, and sampled charcoal for the C-14 dating. However, it is worth mentioning that her interpretation of Still Bay artefacts differs in a great way from the earlier (and later) typological classification of the Still Bay Industry. *"Trench II provided approximately 40.000 pieces of Stillbay material,…No bifacially worked tools were found…The short, broad, triangular point known as the "Stillbay point" was frequent, as were indications of denticulate retouch."*(Anthony 1963: 4). It seems clear that what she was describing here were the earlier MSA layer, underlying the Still Bay as described by Jolly.

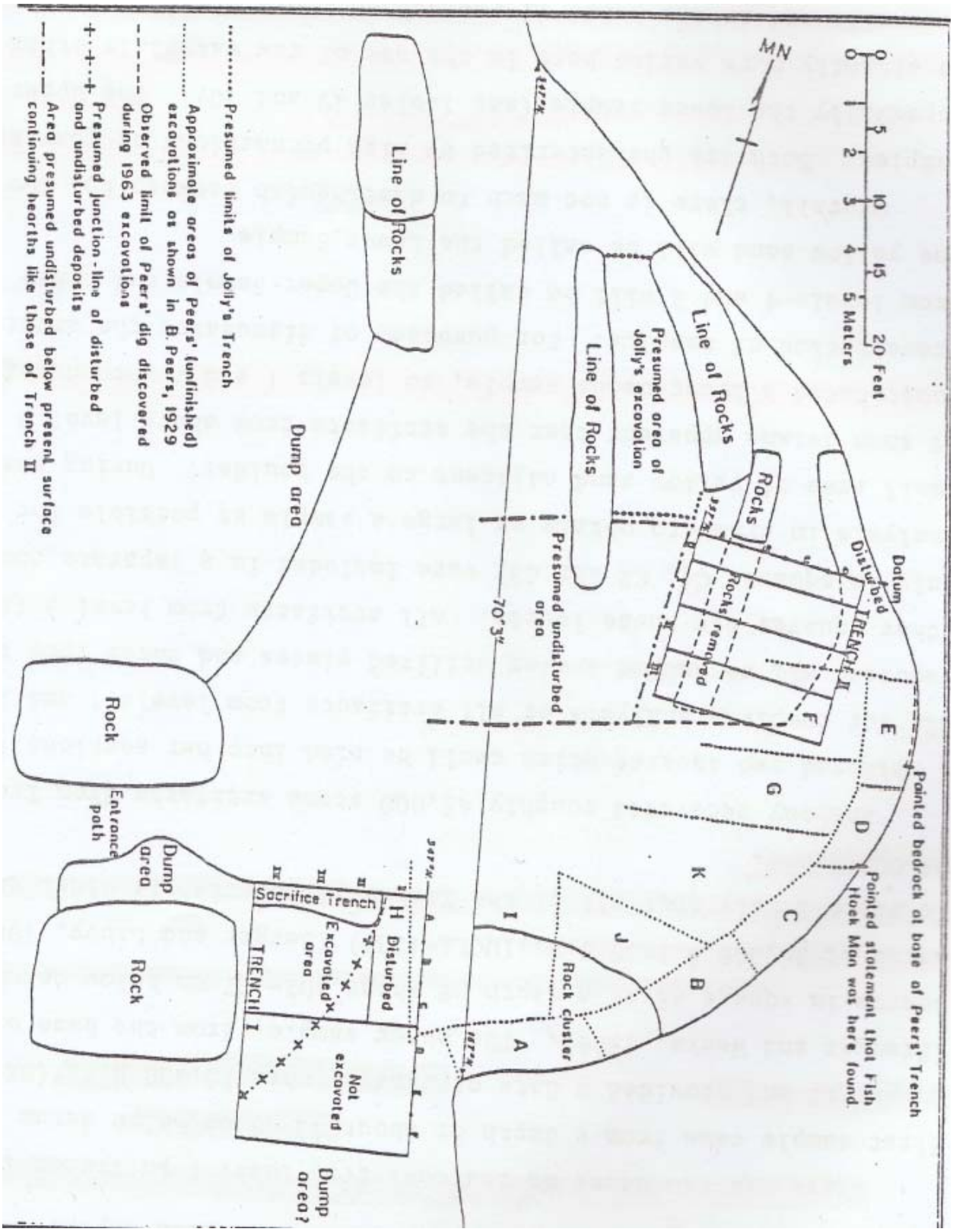

Figure 10: Peers Cave plan 1963, according to B, Anthony (Volman 1981: 171).

In the excavation report of 1963, she informs that the charcoal samples will be submitted to the Gulbenkian Radiocarbon Dating Laboratory Salisbury, Southern Rhodesia. The collected material and soil samples would be stored by the South African Museum and analysed by the end of the year (1963). All the results from the analysis would then be presented in a full report.

Whether Barbara Anthony ever returned and fully analysed all this material, is uncertain. There are statements of a report written for the National Monuments Council (Deacon & Wilson 1992: 3), which I have not been able to find. Nevertheless, her work was never fully completed, nor published. The C-14 dates from the charcoal samples yielded the dates: greater than 35 600 BP for the samples of the upper levels, and 36 000 ± 2400 BP for the lower levels down to 4 feet (Volman 1981: 172). These are far younger dates than what would be credible for what seems to be an early MSA Industry. Bare in mind that radiocarbon dating were a new science in the 1960's, and far more unreliable than today. More resent science has also shown that radiocarbon dating C-14 has certain limits, and samples of an age greater that 45.000 BP are beyond the method of radiocarbon, and can not be dated (Aitken 1990: 61, 85).

The renewed interest of the site resulted in having 'Fish Hoek Man' dated, apparently to about 12 000 BP and well within the LSA. Later a Mr. Rainer Protsch dated an *Equid* bone from the same layers as 'Fish Hoek Man' to a date of 35 000 BP (Daecon & Wilson 1992: 3).

In 1981 Thomas P. Volman researched MSA material from 30 different sites, including Peers Cave, in his PhD: "The Middle Stone Age in the Southern Cape". When researching the material from the three different excavations, he quickly noticed the variations of terminology used by the Peers, Jolly and Anthony in terms of describing the layers and the corresponding stone artifacts. As I have summarized in table 4, 5, and 6, the different interpretations and use of the term "Still Bay" and "Howiesons Port"can be seen.

Volman's interpretations of Peers upper level of Layer 3, is that this may rather be LSA deposits overlying the Howiesons Port and not as Peers though a "coarse" Still Bay industry (Volman 1981: 167). Regarding the Talus Trench, the upper levels are similar to what Anthony dug in both Trench 1 and 2 and referred to as "Still Bay" material.

Volman believes this materiel is more likely to be of the early stages of the MSA, later termed MSA1 and also possibly MSA2 (Volman 1984: 199-203). As for the Howiesons port layer in Jollys description, that were containing bifacial points, he puts forward an explanation of disturbance due to the fallen roof rocks. This would have compromised the stratigraphy of the deposits. From the lower levels of the Talus Trench, where supposedly the

Layer	Thickness	Description	Stone implements
1	15 cm	Surface layer, dust, leaf litter, twigs and animal dung.	
2	90-152 cm	Black powdery deposit, roof rocks. Containing: Seashells, animal bones. Beads of ostrich eggshells, bone points, iron and Seven burials.	Upper and lower grinding stones, Ochre. Some surface finds of stone artifacts of Wilton type.
3	2 m (including layer 4)	Dark deposit, with humified organic material and little bone. All very decomposed except for Fish Hoek Man (above layer 4). Layer 3 is divided by layer 4.	Upper level at layer 3, "coarse Still Bay" untrimmed flakes, convergent denticulates and rare unifacials. (no bifacials). Beneath layer 4. "finer Still bay" with bifacial points.
4	0-46 cm	A thin intervening layer, within layer 3.	Howiesons Poort, backed small pieces (segments) in silcrete. Denticulate scrapers and unifacial points.
5	13 cm	Layer composed of fragments of roof rocks. Remnants of a decomposed skeleton.	Occasional quartzite flakes and rare chert/silcrete flakes
6		No descriptions or details of the deposit	B. Peers reported that Still bay artifacts occurred to the base of the excavation, but no descriptions.
Talus	3,7 m	Jumble of rocks and cultural debris.	At the deepest level, "fabricators" on the border to handaxe technology. Presumed to be ESA by the Peers.

Table 4: Description of layers, Peers excavation (Volman 1981: 166-168).

Layer	Thickness	Description	Stone implements
1	13 mm	superficial layer	Wilton material, single and dubble segments, thumbnail scrapers. Other microliths.
2	0-31 cm	Midden-layer	No artifacts, but containing pottery and ochre.
3		No change in sediments from prior layer. Association with small and large hearths. Well preserved bones.	Howiesons Poort. Retouched segments, serrated and noched blades. Rare and small unifacial and bifacial points.
4			Still Bay, with unifacial and bifacial points. (variations in upper and lower levels)
5			Earlier less advanced industry, triangular points, crude radial cores, convergent denticulates.

Table 5: Description of layers, Jolly excavation (Volman 1981: 169-170)

Layer	Thickness	Description	Stone implements
1	→1,2 m	Tan to dark brown crumbly sediment. Hearths and decomposed bone.	"Still Bay" artifacts. Flakes, debris, triangular points, denticulates (no bifacial or unifacial tools)
2	0-31 cm	Tan to yellow sand.	"Still Bay" artifacts
3		Only from the deepest level Trench 1. Pink sand	"Pre-Still Bay" artifacts

Table 6: Description of layers, Anthony excavation (Volman 1981: 170-172)

Peers' had recovered ESA implements, Volman interprets the implements of being within the MSA, but very early, and maybe a transitional stage between the ESA and MSA. The fact that hand axes and cleavers are entirely absent from the collections supports his theory (Volman 1981: 174). Volman's research at least offers some explanation to clear up confusion concerning Peers Cave and the sequence of industries, but still this issue keeps giving the researchers a headache.

In 2002 Thomas P. Volman, Royden Yates and Dave Halkett with a team of archaeology contracts at UCT undertook an exploratory excavation of Peers Cave. The purpose of the excavation was to determine the extent of intact deposits, their contents and stratigraphy (personal communication Volman 29.Nov 2007). Apperantly, they had some moderate success with these objectives. Most of the deposits were disturbed, and Later Pleistocene material (conventional MSA, Still Bay and Howiesons Poort) were very limited, as these deposits already seemed to have been removed from the whole cave. Volman were working on the excavation report in 2008, but other than that no further work has been done (personal communication Volman and Halkett 14 and 29. Nov. 2007)

In Thomas J. Minichillo's PhD: "Stone Age Lithic Study, South Africa: An Examination of Modern Human Origin" (2005). He (as part of he's thesis) studies the Still Bay bifacial points in an examination of use/function and production, from 8 different Still Bay sites, Peers Cave being one of them. He found that most of the diagnostic artefacts from Peers Cave were missing, from both the Peers and the Jolly assemblages, and that the current collection is but a pale shadow compared to what the original Peers-collection once must have contained (Minichillo 2005: 123). As a result, the artefact sample is not substantial enough for his analysis and a definite conclusion is excluded (Minichillo 2005: 124). Nevertheless, he does mention that Royden Yates has examined the issue of lithic sequences, by using Peers' original notes and plotting artefact depth for the bifacial points. He found that it was more likely that the Howiesons Poort overlies the Still Bay, and was not integrated in the Still Bay deposits (Minichillo 2005: 123). However how Royden Yates has managed to come to this conclusion, when almost all of the diagnostic pieces of Still Bay and Howiesons Poort appears to be missing from the collection, puzzles me.

In light of the practise of the early excavations and the prior research, it is clear that the Peers Cave museum collection have certain limits in how to apply a suitable methodology, however it is not entirely impossible, and I still believe, that the collection holds some potential for a lithic analysis.

Chapter 2: Framework, Theory and Method

2.1 South African MSA research development and framework

The Middle Stone Age studies in South Africa have recently undergone a shift in what one would call explanatory frameworks (Minichillo 2005: 34). New improved dating methods, along with the resent excavations of South African MSA sites; Klasis River, Die Kelders, Hollow Rock Shelter and Blombos Cave, have amongst other sites contributed to a new chronological control. This new evidence have challenged the earlier models of modern human behaviour. (Avery et al. 1997, Evans 1994, Henshilwood 2001, 2007, Wurz 1999, 2000, 2002). In 1987 it was still possible to make arguments that Africa played little role in the evolution of modern humans, and also that the origin of "modern behaviour" was assigned Europe and the Upper Palaeolithic (Mcbrearty 2007: 133). The African fossil record was expanded by new discoveries, and anatomical *Homo sapiens* was present there at least 150 000 ya (Stringer 2007: 15). However, as Henshilwood (2007: 123) argues, modern anatomy and symbolic behaviour did probably not occur simultaneously, none the less, evidence from Blombos Cave gives a date about 75.000 ya as a upper limit of modern behaviour, (that modern human evolution probably had evolved in a time before this) and that is far earlier than any European example.

How does one define modern behaviour and how exactly does one retrieve evidence for modern behaviour in the archaeological record?

2.1.1 Fully symbolic sapiens behaviour

Over some period of time, a "trait-list" of modern human behaviours was developed (mostly By Paul Mellars in 1973). This list was built up by multiple components that would indicate modern behaviour, and that a lack of these traits would indicate non-modern behaviour (Marean & Assefa 2005: 113-114). 1. Burials, an indicator of ritual. 2. Art, ornamentation and decoration. 3. Worked bone/antler. 4. Symbolic use of ochre. 5. Blade technology 6. Standardisation of artefact types. 7. Artefact diversity. 8. Complexity of hearth constriction. 9. Organised use of domestic space. 10. Expanded exchange networks. 11. Effectiveness of large animal exploitation. 12. Seasonally focused mobility strategies. 13. Use of harsh environments. 14. Fishing and fowling.

This trait list was originally based on the middle Palaeolithic "non-modern" Neanderthals versus the Upper Palaeolithic "modern" *Homo sapiens* of the southern France.

The South African MSA was compared with the European Middle Palaeolithic as showing the "non modern" traits. Henshilwood and Marean (2003, 2005) criticised this "trait list" as it had a Eurocentric bias and could not be applied to African examples, also that the issue of time-sensitive differential preservation of material was ignored. Sally McBreaty (2005: 134-135) and Paul Tacon (2006) have, amongst others argued that some of these traits have been visible in the African record as early as 400.000 - 300.000 ya. However, these traits can not be compared with the extensive evidence found in southern France from the Upper Palaeolithic, but are still indications that behavioural changes started already in the Ahceulean to MSA transition (although not fully adapted). Four Alternative African models have been suggested, thus not all of the components of the "trait list" were adapted, certain aspects dealing with recognition of symbolism, were broadly accepted (Marean & Assefa 2005: 97). These four models place the time and place for the emergence of modern human behaviour in very different ways. 1. The Upper Later Pleistocene (LUP) 2. Early Upper Pleistocene (EUP) 3. Later Middle Pleistocene (LMP) 4. Gradualist model, through the Late Middle and Upper Pleistocene (Gradual). This diversity derivers from different evolutionary theories, from a replacement-package-theory to a more gradual-evolution theory, and also most significantly, in how one defines the term "modern". In other words: where to draw the line between modern and not-modern behaviour. These problems are still greatly debated today. The LUP model has lost some credibility with the new evidence from the Cape Coast MSA sites. However, in order to verify or falsify the different models, much more research on the field is needed (Marean & Assefa 2005: 114). I will not debate this matter any further, but simply state that the evidence from Blombos Cave suggest that symbolic behaviour was adapted at least by the time of the Early Upper Pleistocene (EUP) and probably developed in a time before that. Henshilwood and Marean (2005) have suggested the term Fully Symbolic Sapiens Behaviour (FSSB) for this phenomenon, as to avoid more confusion regarding the gradual-evolution theories.

2.1.2 The MSA lithic sequence

In the late 1920's, when good stratigraphic excavations were rare and archaeology lacked scientific dating methods, the Cape MSA artefacts were mainly defined by typological factors. The groundwork of studying the museums collections in this field was done by A. J. H. Goodwin (1926,1930, 1953: 27-54) (Goodwin & Van Riet Lowe 1929). The MSA assemblages were seen as replacing the ESA, with the distinguishable handaxes and cleavers.

The lack of cleavers and handaxes lead to an interpretation that the MSA was defined as a flake industry and a type of technology that involved prepared cores.

Radial and Irregular cores were amongst the most common, with the occasionally Single- and Double platform cores and a few exceptions of cores that could be compared with the European term; Levallois core. Triangular flakes with convergent dorsal scars and faceted butts were common end products in these assemblages (Volman 1984: 193-194). Along with other flake- and blade tools, such as points, scrapers and denticulates, however retouch of the artefacts were rather uncommon. A degree of variability was recognized within the MSA implements, and different industries were proposed. Especially pronounced was the Howiesons Poort backed artefacts, and the Still Bay bifacial points, which seemed to stand out in a great way compared to the other MSA lithics. Still there was a lack of chronology within the explanatory framework of the MSA.

A turning point in the research was the excavation of the site Klasies River in the 1980's. This MSA site provided massive stratigraphic deposits, and tens of thousands of lithic and faunal artifacts, including (at that time) the oldest known human skeletal remains (wurz 2002: 2, Minichillo 2005: 35). Various dating methods were used, and the deposits ranged from 125.000 to 60.000 ya.

A result of the Klasies River (main site) excavation was a new found chronological control of the MSA lithic sequences. I will use the terms suggested by Sarah Wurz (2002: 1013) for describing the different sub-stages of the MSA (table 2). Starting at the base of the deposits; called the LBS-member dated to around 125.000-115.000 ya, the lithic material was ascribed the Klasies River sub-stage (MSA I by Singer and Wymer, MSA 2a by Volman). From the sample studied by Wurz (2002) the lithic material was described;

Klasies River: The litich raw material used, were predominantly local quartzite. 35% point cores, 18% blade cores, rest as irregular or broken cores (one conical core). The cores had an average size of 6,3 cm length, 6,4 cm in with and 2,7 cm in thickness. The cores had a rectangular shape and were mostly double platformed (Wurz 2000: 62). There were a presence of platform preparation on the blade cores, in the form of rubbing, crushing/battering and step flaking for the removal of long thin blades. Also diffused bulbs on some of the blades would indicate the use of a soft hammer. The dorsal scars on the blades were multi-directional and not parallel. The points are described as short, wide, and somewhat thick, not triangular in shape but still notably symmetrical (Wurz uses the term points, even if the pointed flakes do not have retouch). Little retouch, only a few notched

points. The faunal evidence of anatomically modern *Homo sapiens* was also from the LBS-member.

Mossel Bay: (MSA II by Singer and Wymer, MSA 2b by Volman)The overlying layers, called the SAS-member was a thick deposit at some points exceeding 10 meters in depth, suggesting a long occupation time (Minichillo 2005: 39). The dating of this deposit suggests a time of 100.000 - 93.000ya depending on the various dating methods. Raw material was only local quartzite. 48% point cores and 11% blade cores in the lower levels and 33% point cores and 13% blade cores in the upper levels of the Mossel Bay (Wurz 2000: 64). There is a much lower frequency of platform preparation in the Mossel Bay layers, compared to the lower Klasies River. The point cores have an average of 6 cm in both length and width, which make the points triangular in shape. The blade cores are flat and less formal than from the Klasies River. The blades are thick and irregular shape, they have a predominant bulb, suggesting the use of hard hammer (Wurz 2000: 77). Little retouch, a few notched pieces and some very rare denticulates.

Howiesons Poort: The Upper-member containing the Howiesons Poort does not directly overlie the Mossel Bay, but are separated of a Roof Rock member in between. The Howiesons Poort layer dating to 70.000 ya. Predominantly utilization of non-local fine grained material. Only blade cores are present, smaller cores than from the previous layers, flat and rectangular in shape. The cores were prepared by the removals of thin bladelets (Wurz 2000: 68). Thin blanks with diffuse bulb were designed for making backed artefacts. There are fewer notched and pieces and denticulates than the other MSA stages, but much more formal retouch.

The *Post Howiesons Poort:* (MSA III & IV by Singer and Wymer) were overlying the Howiesons Poort in the Upper-member. Raw material was mainly quartzite but also some non-local material. There were no point cores (however many of the cores in the sample were fragmentary and broken), only blade cores, some with double platforms. The preparation of the core was done by removing small bladelets, similar to the Howiesons Poort production system (Wurz 2000: 71). The blades are similar to those from the Klasies River-stage, and the points are similar to those of the Mossel Bay-stage. Some scarce serrated retouch.

Ochre occurs in all levels, but most dominant in the Howiesons Poort stage. Worked bone also appears from the Mossel Bay stage.

The Klasies River excavation contributed to chronological control of the Cape MSA, a technological and typological sequence of *Klasies River, Mossel Bay, Howiesons Poort* and *Post Howiesons Poort.* However, the sequence at Klasies River site was incomplete, and

lacked other sub-stages known by their typological traits, as the Still Bay bifacial points and Volman's (1984:199-203) MSA 1 from Peers Cave.

The Klasies River-model rather confirmed the old way of thinking, that anatomical modernity did not mean modern behaviour and that FSSB did not first occur in Africa. Despite Wurz's (1999, 2002) later technological analysis and argument for variation within the lithic sequences, there were small variations and it is still, according to Minichillo (2005: 38,40), easier to make arguments for continuity within the lithic technology than change for the Industries: Klasies River, Mossel Bay and Post Howiesons Poort (with the exception of the Howiesons Poort Indusry). The Howiesons Port however, still predated the supposed beginnings of FSSB in the Upper Palaeolithic, but the arguments for the Howiesons Poort lithic technology as evidence for symbolic behaviour was not at that time entirely convincing. The finds from the later excavated sites Die Kelders, Hollow Rock Shelter and Ysterfontein continued to prove that there were technological changes within the lithic sequences and artefact diversity amongst other modern traits in the MSA layers, also proving that the Klasies River model was lacking several MSA phases (Evans 1994, Avery et al. 1997, Halkett et al 2004). As the South African MSA got more international attention with this new information an important discovery was made to put modern behaviour and the South African MSA into the global archaeological spotlight, Blombos Cave.

Here three phases of MSA occupation was identified, called M1, M2 and M3. The M1 phase was dated to 73.000 ya, M2 77.000 ya and M3 125.000 ya by various methods from single-grain laser luminescence and optical stimulated luminescence on sediments to thermo luminescence on burnt lithics (Henshilwood et al. 2001: 426). Faunal evidence was well preserved and proved that all phases exploited marine recourses to a great extent along with hunting and gathering of terrestrial animals.

In the layers from the M1 phase numerous "true" bifacial points, bone tools, *Nassarius kraussianus* shell beads, engraved ochre and bone were amongst the finds (Henshilwood 2005: 125). Because of the typological factor and numbers of the bifacial points, the M1 phase was seen as part of the Still Bay complex. Both the beads and the engraved ochre attracted extra attention, as the beads were seen as one of the earliest evidences for ornamentation, and the ochre piece the first singes of art. The ochre piece have been wildly debated whether these markings can be considered art at all, but still stands today as one of the most important finds, being evidence for FSSB in MSA Africa.

The upper M2 phase was also ascribed the Still Bay period, containing Still Bay points and bone tools. There were however no bifacial points in the lower layers of the M2.

The M3 phase dated to 125.000 ya, would according to the Klasies River model fall under the Klasies River period (MSA I by Singer & Wymer, MSA2a by Volman). However, the lithic material from the M3 phase does not fit in with the typological factors of this stage. Furthermore, silcrete was the preferred material, and more than 4000 pieces of ochre including ochre processing tools were found. According to Henshilwood, this represent an earlier and yet to be described lithic phase in the MSA (Henshilwood 2005: 126). The descriptions of the Still Bay, and the "yet to be described" sequence lithic material;

"Yet to be described"(M3)*:* Silcrete being the preferred raw material here with some additions of quartz and quartzite. The cores from these layers are predominantly for the production of flakes and not flake-blades. The cores show platform preparation and most of the cores in the M3 phase are exhausted. Prominent bulbs of percussion on the flakes indicate the use of hard hammer. Blanks from this phase are larger than the later stages, mainly because the detached pieces represent core preparation and reduction and not retouch debitage. The retouch in M3 is mostly informal, a few notched pieces and denticulates. Quartz being the preferred material on retouched pieces (Henshilwood 2001: 429). The great value of pigment density from this phase is at least three times greater than any earlier reported MSA or LSA deposits. The utilization of the ochre consists of two main traces; striae from grinding, and scrape marks. Only 16% of the ochre has been worked in this phase, whereas 31% were worked in the Still Bay M1 phase.

Still Bay (M1 & M2): The core frequency is low in the upper M1, but increases in the lower strata. Most common are the small irregular quartz cores from the M2 phase. Quartz cores are relatively more common than the quartz dethatched pieces, whereas the opposite is the case for silcrete and quartzite. Small, thin, often curved flakes dominate the assemblage, these are the products of soft-hammer bifacial retouch, few pieces are large enough to be called blanks. Only the in M2 phase does quartz flakes with prominent bulb occur. 55% of the retouched tools in the M1 are bifacial points, mostly broken, and the preferred raw material for these points were silcrete. From the unbroken points the shape can resemble a long lanceolate or elliptic leaf, most of them have two opposed points to give them this shape (figure 11). A few have finely retouched rounded butts. The bifacial points vary in length from an average 4-9cm. All stages of the bifacial point production are present (Henshilwood et al 2001: 428-429). Many knapping mistakes are visible on the broken points. Some of the points were made directly from a cobble core, others have remnants of bulbs and were prepared from a flake state. Convex scrapers are the other significant component of the formal tools in this Still Bay assemblage. End scrapers are the most common, then side

scrapers. There are two examples that are circular in shape and shows retouch over two thirds of the edge, comparable to LSA examples.

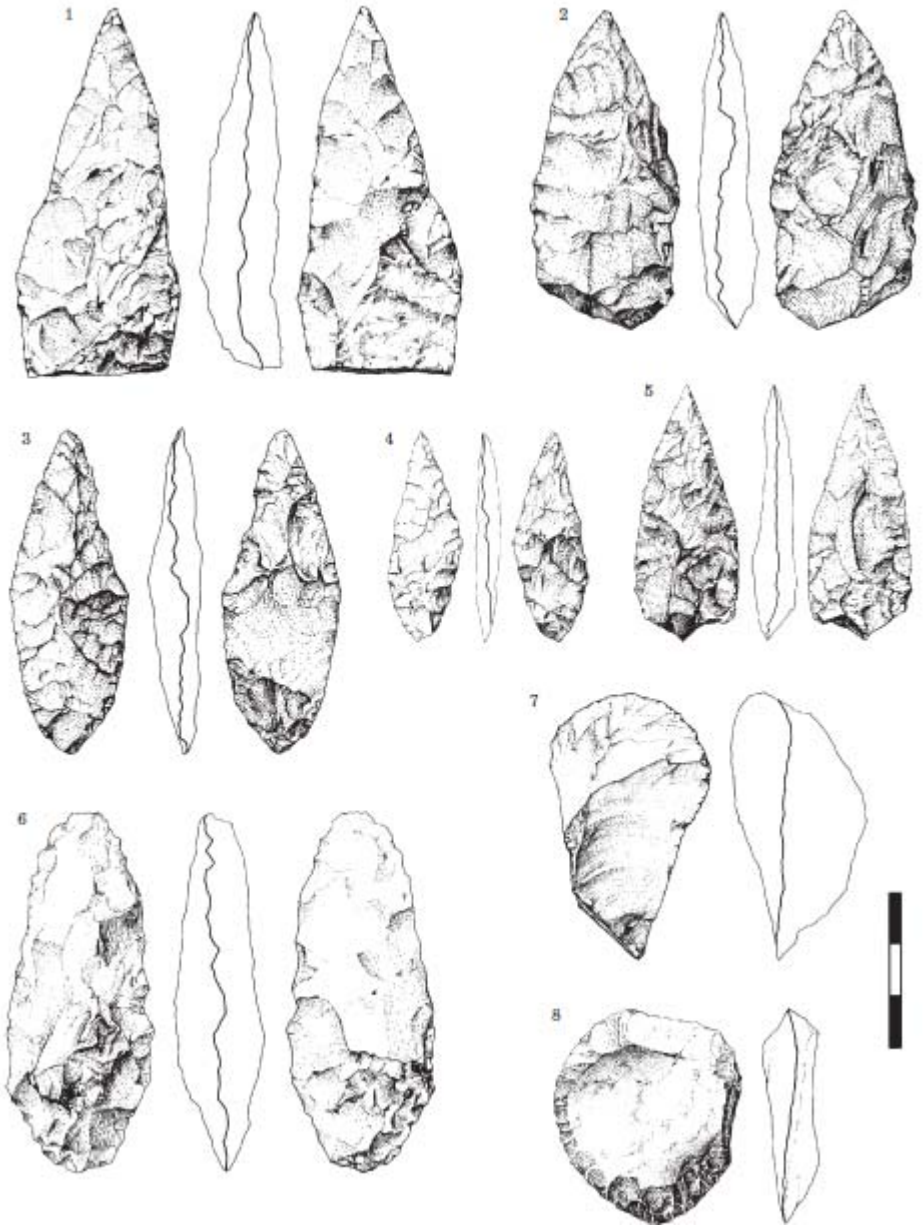

Figure 11: Formal tools from Blombos Cave, M1 phase. 1-6 are bifacial points, 7 and 8 are convex scrapers. Scale is in cm. (Henshilwood et al. 2001: 430).

The South African MSA research is rapidly developing with the modern ongoing excavations, one important example is Pinnacle Point, a costal site in Mossel Bay that will surely come to contribute to the list of MSA sub-stages, and maybe even push the bar of symbolic behaviour further back in time than the Still Bay (Braham & Mitchell 2008: 252-253).

2.1.3 The Still Bay and classification

What exactly is the Still Bay complex reefed to by Henshilwood, and how do we classify Still Bay material?

The term Still Bay has a long lived history in South African archaeological litterateur. From the late 1800s to the early 1900s, collectors recovered bifacial points as surface finds from open dune fields in the Cape (Jolly 1948). This unique variant of lithic technology was easily distinguished from other stone artefacts and the obvious difference made it more interesting and was frequently in the focus of the collectors and antiquarians (Minichillo 2005: 100). The first published article referring to the bifacial points came in 1870 by Sir Langham Dale, the name he assigned these lithic artefacts was "Cape Flats culture" (the name of place from which the artefacts were found). "Lance heads of Solutrean type" and "Laurel-Leaf bifaced points" were also terms used by the many collectors (Jager et al 1944). The early antiquarian C. H. Heese had discovered a large number of bifacial points from a dune site in the Western Cape near a place called Stilbaai. In honour of Mr. Heese, Goodwin proposed the term "Stilbaai type". Later the new term for the bifacial points came in many variants, according to the different English and Africaans linguistic structure and spelling of the word (Minichillo 2005: 103). Still Bay, Stillbay, Stilbaai and Stil Baai were the four variants describing the same phenomenon. The English version Still Bay is the most commonly used term in the more resent literature, and therefore the term used here.

The early 1920's typological research of the bifacial points resulted in the Still Bay Industry also being a geographical phenomenon, confined within the area between the Atlantic and the Indian ocean coasts and the Cape Fold Mountains as the north border. After more than eight decades of research, this geographical theory is supported by the resent excavations in South Africa and still held valid (Minichillo 2005: 104). Other bifacial points have been found in South Africa, outside the "Still Bay area", but these were viewed as typologically different from the Still Bay bifacials. Two examples are the hollow-based points from the KwaZulu-Natal Province, and the teardrop shaped points from the Free State Province.

The resent dating of the Still Bay phase has also contributed to more understanding and classification of the term. The age estimates for the Still Bay phase is 75.000 ±5000 ya (Henshilwood et al. 2001: 426). This puts it clearly before the Howiesons Poort phase at Klasies River. However Peers Cave had for a long time been the source of some confusion regarding the Still Bay and Howiesons Poort order in the MSA sequence. Peers Cave being one of the rare sites containing both of the two Industries, and by the Peers' descriptions of

these layers were not that the Howiesons Poort succeeded the Still Bay. According to the Peers', Howiesons Poort was intervening between to layers containing bifacial points. The overlying bifacials were described as "coarse Still Bay", while the underlying bifacials were described as "proto Still Bay", with the Howiesons Poort implements in-between (Peers 1929). Multiple theories have been put forward, all suggesting that the Peers' "coarse Still Bay" is not Still Bay, but rather Post Howiesons Poort or LSA material (Minichillo 2005: 106, Volman 1981: 167, 1984: 199). This, however, means that the presence of bifacial points does not always determine what classifies a Still Bay Industry. Certain formulations have been used to hold on to the typological approach, that it is possible to distinguish the Still Bay from other MSA/LSA material, like fine/fully/true – bifacial points (recently used by Henshilwood et al. 2001). Numbers of the points found have also been seen as a factor for classifying Still Bay. The bifacial points from Hollow Rock Shelter are also termed Still Bay, but as Ursula Evans (1994: 71) points out, the term Still Bay is greatly flawed mainly because it is so loosely classified. The classification is solely based on the presence of bifacial points, and no other artefacts or faunal evidence.

Nevertheless, this loose classification of the term Still Bay are supported by the scientific dating methods and can be summarized by four factors:

- *Distinct type*, shape/form/size/style of the bifacial points. The laurel-leaf or elliptic-leaf shape as the "true/fully" Still Bay point (however, other forms do occur in the assemblages).
- *Numbers*: no exact number is sat as a limit, but the assemblages should contain numerous bifacial points.
- *Area:* The Still Bay is confined to a limited area, the Southern and Western Cape coasts and to the Cape Fold Mountains.
- *Age*: The Still Bay complex is estimated to have occurred in a time between 80-70.000 ya (Wurz 2002)

2.2 Typology and glossary of terms related to South African MSA

Typology is the study of artifact types, and the aim is to group artifacts in a sequence based on their type, shape, form and style characteristics. Typology as a systematic method within archaeology was developed in the 1860-70's by Swedish Oscar Montelius. Greatly influenced by the Darwinian theory, the evolution of species. *"The arrangement of artifact types in a sequence is based on two simple ideas: first, that a product of a given period and place have*

a distinctive style or design, and second, that changes in style are gradual, or evolutionary." (Renfrew & Bahn 2000: 120-121). This was the method used by Goodwin and the early antiquarians of South Africa when Peers Cave was excavated. However, the method had many flaws, basically because the interpretation of types is a subjective matter, not before the 1940 was the methods weaknesses addressed. Typology could not be the sole method used to put artifacts into chronological sequence, but had to be supported by dating and strategraphic evidence. There are now two divided views on typological method, one is that types are real and reflects "the mental template of the maker of artifacts". The other view contemplates that types and classification systems are not objective realities, and thus only can be used as a tool for statistic analysis. The first view is the mostly supported in South African literature, especially concerning the MSA and FSSB. *"African MSA points show formal standardization and stylistic variation across space and time, and they provide an avenue into the social and symbolic world of early humans"*(McBrearty 2005: 136).

One problem with typology is the assumption that similar types represent the same phenomenon in every example. Even in the distinguishable Howiesons Poort, is it not a given fact that all assemblages assigned to this group by the presence of smaller backed artifacts and the use of fine grained material genuinely belong together (Mitchell et al. 2002: 35), and the same goes for the Still Bay bifacial points.

Another problem with the method is that current South African researchers tend to use separate typologies and very different terminology for describing the stone artifacts, which have resulted in some confusion (Conrad et al. 2003: 12, Mitchell 1995: 80, Mitchell et al. 2002: 39-40). This issue has been addressed more than once, and in an article by Nicholas Conrad, Marie Soressi, John E. Parkington, Sarah Wurz and Royden Yates (2003) a unified lithic taxonomy based on patterns of core reduction was presented. This was a step in the right direction; the goal was to unify the European and African lithic terminology based on technological analysis rather than typological factors. Unfortunately this only adds to overly filled pool of terms describing the MSA cores. The earlier taxonomy was based on eight decades of research, and the various terms glides in and between the different categories, because there was no set of rules to define the lithic material. The purposed terms does have technological rules for the categories, but it is difficult to place the old terms in this scheme. One simply does not erase over 80 years of lithic terminology, replacing it with a new over night. To be able to classify the lithic material from Peers Cave and at the same time understand the early descriptions of the lithic material excavated in the 1920's, I see no other

option than to include if not all than most of the terms related to the South African MSA. Presented here in table 7:

Cores: A piece of stone from which at least three flakes have been systematically removed from one or more defined striking platforms.	**Blanks, detached pieces and debitage:** Removals, that are not formal tools.	**Formal tools:** Artefacts in which the working edge and/or other edges have been deliberately retouched to modify their shape to a predetermined and repeated pattern or to produce a desired working edge.	**Retouch:** The shaping, sharpening and/or blunting of an artifact. Two forms of retouch; formal and informal retouch. Can also be mistaken for edge damage.
Blade core: A core with at least one platform from which blades have been struck **Bladelet core:** A core with at least one platform from which bladelets have been struck.	**Blade:** A parallel-sided flake with one or more dorsal ridges and a length at least twice as great as its breadth. Blades are more than 25 mm long.	**Adze:** A flake, or sometimes a pebble, with one or more concave, sometimes straight, working edges shaped by one set of flake scars, as well as by secondary flaking that results from use.	**Backing** refers to the blunting of an edge by abrupt vertical retouch, most commonly by pressing the edge against a hard anvil with either the ventral or the dorsal surface uppermost.
Radial/ Discoid/ Change of platform Core: Cores for the production of flakes with intersecting dorsal scars (Volman 1984: 194).	**Bladelet:** A narrow parallel-sided flake with one or more dorsal ridges and a length at least twice as great as its breadth. Bladelets differ from blades in being no more than 25 mm long.	**Backed bladelet:** A bladelet that has at least one of its longitudinal edges modified by abrupt backing retouch. **Backed flake**: A flake of irregular size and shape that has one or more edges modified by backing retouch.	**Miscellaneous retouch**: A term employed for artefacts which show sustained retouch, but cannot readily be accommodated within any of the formal tool classes distinguished by Middle or Later Stone Age typologies
Inclined Core: Have two surfaces, with removals inclined relative to the plane defined by the intersection of the surfaces. The removals have an angle of roughly 45°. (Conrad et al. 2004) The term **Conical core** falls under this category used by Wurz (2000)	**Chunk/Chip**: A piece of stone considered to be the result of human intervention, but lacking the diagnostic features that would permit it to be classified as a core or a flake.	**Backed scraper:** A scraper that has been backed along one edge, generally that opposite to its retouched convex **Backed point**: A bladelet that has been backed along one lateral edge, leaving the other one sharp but unmodified, the two edges intersecting to form a point.	**Notched:** Informal retouch. particular kind of utilisation in which damage to an edge has been sufficiently sustained for one or more clearly concave notches to form.
Core rejuvenation flake: A flake detached from one end of a core in order to remove an old, exhausted platform and simultaneously form a new one. **Core-reduced piece**: Cores that have been worked so much that they can no longer be flaked.	**Crested blade flake (lame à crête)**: An elongated blade or flake with a single dorsal ridge and triangular cross-section deriving from the initial stage of preparing the edge of a blade or bladelet core for the subsequent detachment of blades or bladelets.	**Segments/Cresents:** A flake, or part of a bladelet, that has a straight, sharp edge opposite to a curved arc backed by abrupt retouch. In plan, segments are thus comparable to the segments of an orange.	**Denticulation:** Informal retouch, A series of notches along an edge, often evenly spaced. Unknown use/function for denticulate pieces. Would have been ineffective as saws, which the shape resembles.

Core tablet: The flake produced as a result of rejuvenating an old platform by striking a blow at one end of the original platform to remove a wedge-shaped tablet and thus obtain a new striking platform immediately below the first.	**Flake:** Artefacts produced by percussion from a core with clear dorsal and ventral surfaces. The dorsal surface has negative flake scars from previous flaking events and/or retains cortex, while the ventral surface is flat and has a bulb of percussion marking the point of impact from the hammer.	**Grindstone:** Abrasive stones with signs of smoothing or pecking from being used as grinding surfaces, generally in the preparation of pigments and/or plant foods. Upper- and lower grindingstones can be recognized.	**Unmodified:** Artefacts that show no sign of macroscopically visible edge damage or retouch. **Edge damage:** damage to the edges of a blank/ tool which is not the result of human intervention, but due to natural circumstances. Often irregular and uneven.
Disc core: A core in which flakes have been removed from around the perimeter of a piece of stone that has previously been prepared through repeated flaking of the perimeter to create a suitably acute platform angle. Disc core is included in Volman's term Radial core.	**Flake-blade:** A flake that is at least twice as long as it is wide and that has at least one dorsal ridge, but which does not necessarily have strictly parallel sides. The term is commonly employed in the analysis of Middle Stone Age assemblages and subsumes those artefacts that are, on the stricter definition given above, clearly blades.	**Bifacial point:** Middle Stone Age points that have been retouched over a large part or the entirety of both the dorsal and the ventral surface. In at least some cases such retouch was accomplished by pressure-flaking.	**Invasive retouch: (unifacial / bifacial retouch)** are shallow and occur on the dorsal and/or the ventral surface. The retouch should extend over half or more of the length of the piece.
Irregular core: A core in which flakes have been removed from one or more platforms, without giving the core any regular shape. **Multidirectional core:** With removals from three or more surfaces, with no well-developed platforms. (irregular in shape) New term suggested by Conrad et al 2004.	**Bifacial thinning flake:** small flake-debitage of the later stages of the reduction sequence of bifacial thinning/ working (Minichillo 2005). **Detached pieces** is the term used by (Henshilwood et al 2001) for these small flakes.	**Borer:** A bladelet with steep retouch along both lateral edges forming a point at the distal end suitable for boring holes in hide, ostrich eggshell and other materials. Microwear studies have so far only confirmed the first of these functions **Burin:** prepared surface from a spall removal.	**Direct retouch:** Edge preparation from ventral to dorsal surface.
Levallois core: A roughly circular form of prepared core in which the core has first been trimmed so as to permit the detachment of a single flake of predetermined size and shape. One surface of the core is covered with preparation scars which have been truncated by the removal of the lavallois flake.	**Triangular point:** A pointed flake, with a triangular shape, often two or more convergent dorsal scars and no formal retouch. (Volman 1984: 194). Triangular points and other **pointed flake-blades** are often in South African MSA literature categorized as points even if they don't fill the criteria for formal tools. (Wurz, 2000).	**Grooved stone:** A pebble or small cobble with one or more grooves pecked into its surface that have then been ground smooth. The grooves normally run the full length of the pebble, are seldom more than 10 mm wide and may be either U- or V-shaped. Ethnographic data indicate that grooved stones were used for a variety of tasks, including straightening bone arrowpoints	**Inverse retouch:** Edge preparation from dorsal to ventral surfaces. (more difficult to execute than direct retouch).

Bipolar core: reduction using a hammer and an anvil. Particularly common in knapping quartz. (Conrad et al. 2004)		**Hammerstone:** A cobble with pitting that results from its having been used in the hand as a hammer. Soft-hammers results in diffuse bulb of percussion and hard hammers a pronounced bulb.	**Alternate retouch:** one edge direct retouch, opposite edge inverse retouch.
Platform core: Have two faces, removals are often on narrow surfaces. Three or more successful removals must be recognized. The removal angles are steeper than 45° and close to 90°. Blade or flake removals. **Single platform core:** Term used by Volman (1984). Only defined as a core with removals struck from one single platform.		**Knife:** A particular class of Middle Stone Age retouched artefact, knives exhibit retouch along a straight edge. Two kinds can be distinguished: unilateral, where only one edge has been retouched, and bilateral, where two (generally opposing) edges have been retouched.	
Intermediate Broken core: Core that can not be classified because they are broken, but can still be recognized as a core. (Conrad et al. 2004)		**Point:** A flake or flake-blade of Middle Stone Age origin that has been retouched on two converging edges to form a point.	
Parallel core: two main surfaces with removals. Must include one or more major removals parallel to the plane that intersects the two surfaces. (levallois core fall within this catagory) (Conrad et al. 2004) Also Volmans (1984) **Opposite platform core** and **double Platform core.**		**Scraper:** Artefacts, commonly made on flakes or flakefragments, though other blanks are sometimes used, characterised by a flat ventral surface and by a deliberately retouched convex edge. The convexity of the retouched edge distinguishes them from adzes, points and knives.	
Initial core: A core with a small number of removals that is not organized with in a system of removals. Tested pieces of raw material, includes manuports with some modifications. (Conrad et al. 2004)		**Unifacial point:** Middle Stone Age points that have been retouched over a large part or the entirety of the dorsal surface. In at least some cases such retouch was accomplished by pressure-flaking.	

Table 7: Glossary of terms related to South African MSA (Volman 1981, 1984, Wurz 2000, 2002, Henshilwood et al. 2001, Mitchell et al. 2002, Conrad et al. 2003, Minichillo 2005)

Typological classification only recognises certain variations in the lithic artefacts. Mainly because retouch was seldom used to shape the MSA artefacts, (with some exceptions, Still Bay and Howiesons Port) the investment rather lay in the preparation of the core. The blanks

removed from the prepared core were the end products, and these were rarely retouched (Wurz 2002: 1002). A more technological approach would give a wider range of information regarding various knapping techniques and the reduction sequences of the lithic artefacts manufacture. This technological approach or method is mostly known as the *Chaîne opèratoire*, the chain of operations.

2.3 Chaine opèratoire

The term chaine opèratoire was first introduced in 1966 by the French anthropologist Andrè Leroi-Gourhan, the purpose was to make a theory of technological processes, where technical acts were also seen as social acts (Edmons 1990: 67, Darvill 2002: 78). The actions carried out in making the artefact would say more about social and symbolic aspects than the final product. This theory and method (with some modifications) was soon adapted by archaeology, first by the researches working in the Middle Palaeolithic, where stones and bones were all one had to work with (Dobres 2000:1). Knowing the step-by-step actions and procedures by which the ancient technicians selected raw material, prepared, modified, altered, shaped, used, repaired, reworked, recycled and ultimately discarded their material culture, can produce an enormous amount of information. Technical knowledge and strategies, skill and competence, valued judgements, intentions and shortcomings (Dobres 2000: 5)

The studies of chaînes opèratoires have become more than a method for technological analysis, it has also become a theoretical framework where both functional and symbolic aspects are being addressed (Barndon 2002: 7). A corner stone for the theory is that the material culture is part of a larger web of meanings and symbolic expression, just as much as the practical aspects (Dobres & Hoffman 1999).

Chaîne opèratoire includes an amount of different analytical methods, such as microscopic use-wear analysis, experimental archaeology as stone tool replication and macro-fracture studies, typological sequences, refitting studies, GIS and so forth (Dobres 2000: 3). It is a chosen set of these analytical methods which forms the research methodology. Some of the analytical methods are combined to suite specific research questions, and also in this case, the actual possibilities the excavated lithic material holds for such an analysis.

The use of the chaîne opèratoire in South African archaeology have been lagging behind, compared to the European example (Mitchell 1995: 74). Only in the most resent years and in a few examples (Lombard 2005ab, 2006ab,Villa et al. 2009) have some impact

fracture, use-wear analysis and experimental replications been explored. This means that the Still Bay material holds great possibilities for new interpretations and a better understanding of this important sub-stage.

Evidently, there is no methodology without limitations, and one of the problems with the chaîne opèratoire approach is whether it is possible to obtain all the sequences and sub-sequences of the total operation that constitute a technological system, from the excavated material (Barndon 2002: 8-9). First, all the operational sequences would have to be conducted within a restricted area, second the material would then have to be recovered through a detailed excavation. However, even if the whole chain of operations is not recovered, there would still be information to gather from the sequences present, and the ones that had been conducted elsewhere.

For the study of the Peers Cave lithic material, I will use typological classification, based on the many decades of research on the MSA lithic sequences, mentioned in the earlier sections, combined with a refitting study where the material allows it. I will also look at macro-fractures of the Still Bay points.

2.3.1 Refitting analysis

Refitting, or conjoining as it is sometimes called, can be compared to a 3-D jigsaw puzzle. Attempting to put cores, tools, flakes and debris back together again is time consuming and hard work, but it can produce spectacular results (Renfrew and Bahn 2000: 323).

A central question in the Still Bay debate lies in the production of the artefacts, what production techniques were used and where the Still Bay points manufactured at the site? If they were, the debris should also be present amongst the recovered material. Different hypothesises have been put forward suggesting the place of manufacturing and the use/function of the bifacial points (Minichillo 2005: 130). The bifacials have often been interpreted as hafted spear points (Minichillo 2004). However the lack of impact fractures on bifacial points from cave sites, were we find the largest assemblages, has therefore only been seen as the place of manufacture, the "workshop" for the bifacial points. One example is Blombos Cave (Soressi & Henshilwood, 2004). And that they were used as hunting and butchering tools on the more open plain sites. But no refitting studies have yet been made to confirm that all or some sequences of the *chaine opèratoire* where actually conducted in the caves.

To try and refit the debris directly on to the actual point is, as I was lucky enough to witness when Vincent Mourre was knapping a silcrete bifacial (as part of a research project

of the Blombos bifacial points), nearly impossible. The small microscopic blanks and dust of debris from the last sequence of the production (the finishing touches), will first of all not likely be recovered in the excavated material, and second if at all possible very difficult to refit. Nonetheless, the earlier stages of the *chaine opèratoire,* the debris of larger chunks and blanks should be represented in the material recovered from the excavation and can be refitted. If these bifacial points at all were manufactured at the site. But to connect the debris to the actual artefact, will also lie in the raw material. Some material has distinctive features, in colour (patches/lines), quality, mixture of different types of material etc. Such features could indicate that these different pieces of debris and the artefact no doubt where struck from the same block of material.

With a refitting analysis of the MSA layers at Peers Cave we could also study which sequences of the *chaine opèratoire* were conducted at the cave and which of the sequences that are missing. Was the raw material prepared before it was brought to the site? And if so, too what degree? It must be taken into consideration that movement in layers can have occurred, small blanks could have moved up or down in the units.

2.3.2 Points, hafting and macro fracture analysis

Minichillo have suggested a theory that the Still Bay points in cave sites were hafted knives used for cutting rather than a hunting tool (Minichillo 2005: 127). He also put forward evidence that some points show signs of resharpening while hafted, which support this theory. Nevertheless, research data concerning impact fractures, use-wear, breakage patterns, residue analysis and hafting of the bifacial points (Lombard 2006a, 2006b, Villa et al. 2009). Is still divided in supporting the hypothesises, and differs from site to site. A multi functional theory has also been suggested along with symbolic and ritualistic functions.

Experimental studies have been made to differentiate impact fractures from damage during manufacture or breakage due to for example trampling. (Villa et al. 2009, Lombard 2005ab, 2006b) Trough this research certain diagnostics features have been put forward to recognise impact fractures, the following descriptions are adapted from Lombard (2005a):

- *Step terminating bending fracture*: a bending initiation fracture which before meeting the opposite surface of the specimen runs parallel to this surface, and which thereafter makes a sharp 90° step to meet the surface at a right angle.
- *Spin-off fracture>6mm*: cone or other fracture types that initiates from a bending fracture, such as a snap fracture, and which removes parts longer than 6 mm of the

original surface of the specimen. (Can also be smaller then 6mm, but then they are no longer 100% diagnostic for impact fracture)

- *Bifacial spin-off fractures*: cone or other fracture types that initiate from the same bending fracture removing parts of both surfaces irrespective of the dimensions of the spin-off fractures.
- *Impact burination*: fracture resembling a burin blow occurring along either one of the lateral edges, lacking the negative bulb of percussion common to deliberate burination.

I will study the MSA points after the criteria for diagnostic impact fractures, and traces for hafting like visible patina or thinning/resharpening of edges (Rots 2008). As for limiting the material for this thesis unfortunately this will be a less formal analysis, based on my observations when researching the lithic material.

There is great limitations in how any of the analytic methods can be applied to the Peers Cave material. In keeping with the time and the practise, how these early excavations where carried out, the sampling of data and in light of the theory and research questions in mind in the 1920-1930's there is no doubt that this lithic assemblage is biased compared to assemblages from modern excavations.

2.4 Peers Cave lithic assemblage as a case study

Peers Cave was known for its thick MSA layers especially from the Still Bay period, with numerous bifacial points (Peers 1929). Peers also mentions in his report that some points have the shape of the laurel leaf, and that the cave appeared to be a manufacturing site for these points, because the site consisted of many rejects and hammer stones (Peers 1929). However, the collection is poorly documented, and no full description of the excavation has been published. The later researchers have also noticed that most of the diagnostic artefacts are missing from the collection, and this have resulted in some doubt about the assemblages validity and the Cave being referred to as a Still Bay site. Mitchell (1998: 27) and Minichillo (2005: 123) have mentioned that some of the Peers Cave assemblage might be housed by the British Museum.

It is therefore important to track the mistakes made by the early excavators and researchers. Record this bias and get a realistic picture of the lithic assemblage, before a lithic analysis is conducted.

2.4.1 Early excavations and the use of Dynamite in the 1920's

As mentioned in chapter 1, Victor and Bertie Peers's first attempt at excavation (though the word "excavation" is not suitable here), can be compared to mining activities where picks, spades and forks were frequently used (Peers 1929). They were sifting through the deposits if not only, then mostly collecting the finer specimens of stone artefacts, beads of shells and ostrich eggshells. The stone tool debitage, along with shells and roof spalls, were thrown in heap-piles, as described by Jolly (1948) and Anthony (1963), and therefore hardly recovered in the sample. However, the skeleton remains were more carefully dug out according to the excavation notes, an explanation for this priority can be seen in keeping with the time and the practise were topics like Darwinian theory, and not to mention race, was in the minds of the researchers. Fortunately and unfortunately, the Peers' encountered fallen roof rocks, after three human burials were discovered and most of the LSA layers removed. This was fortunately when they got time to improve their excavation methods, but unfortunately when the cave was exposed to numerous explosions.

To get more information about how this early demolition might have disturbed the deposits in the cave, I contacted an acquainted Blast Manager, Mr. Petter Nielsen. He was kind enough to enlighten my knowledge of rock blasting. The type of explosives used in the 1920's was dynamite. To be able to crush a quartzite rock of approximately 1000 kilos, one would have to use 90g of dynamite, this 90g would in 1 millisecond turn into 100liters of nitrogen gas, and this enormous force of expanding gas would cut through rock like a knife through butter. The blast radius if the rock was lying in an open field, would have been approximately 100 meters. In the case of Peers Cave, pieces of the primary blasted rocks would have descended into the unconsolidated underlying masses and also have hit the cave roof and walls causing secondary crushing. From the Peers excavation record (1929) he states that this job was undertaken by experts. Still Nielsen informs that a common practice in the early 1900's was that they tended to use more explosives than was really necessary (maybe twice or even three times as much), to avoid having to do the same job twice. Whether this was the case or not is uncertain, with no further

Figure 12: Photo from Peers Cave, blasted rocks, one even marked "not in situ".

descriptions and only a few photos like the one in chapter 1 (figure 6) to go about, it is hard to get a more detailed picture of how the blasting occurred. Either way this would definitely have put its mark on the cave, and the disturbance of the site and it's deposits would have been comprehensive. There is still today visible evidence of the blasted rocks in Peers Cave. After the blasting job, there would undoubtedly have been masses of blasted rock-pieces all over the cave floor. The tedious, and as Peers (1929) himself states, time consuming work of cleaning up the site would probably also have caused some loss of artefacts from the deposits.

The further excavation of the cave according to Peers (1929), Goodwin (1929) and Jager et al. (1941) was carefully dug out and documented. In their defence and again keeping with the time, there are numerous drawings and illustrations from this excavation. However, according to the total masses removed from the cave in such a short period of time (four years only working week-ends and holidays), the method of excavation would have been far from what one expects under current protocol of excavation procedure. Here lies yet another mistake made by the Peers'; almost the whole cave was cleaned out, 3 meters in depth, leaving only a small witness-bulk in the far western end of the cave (figure 13.)

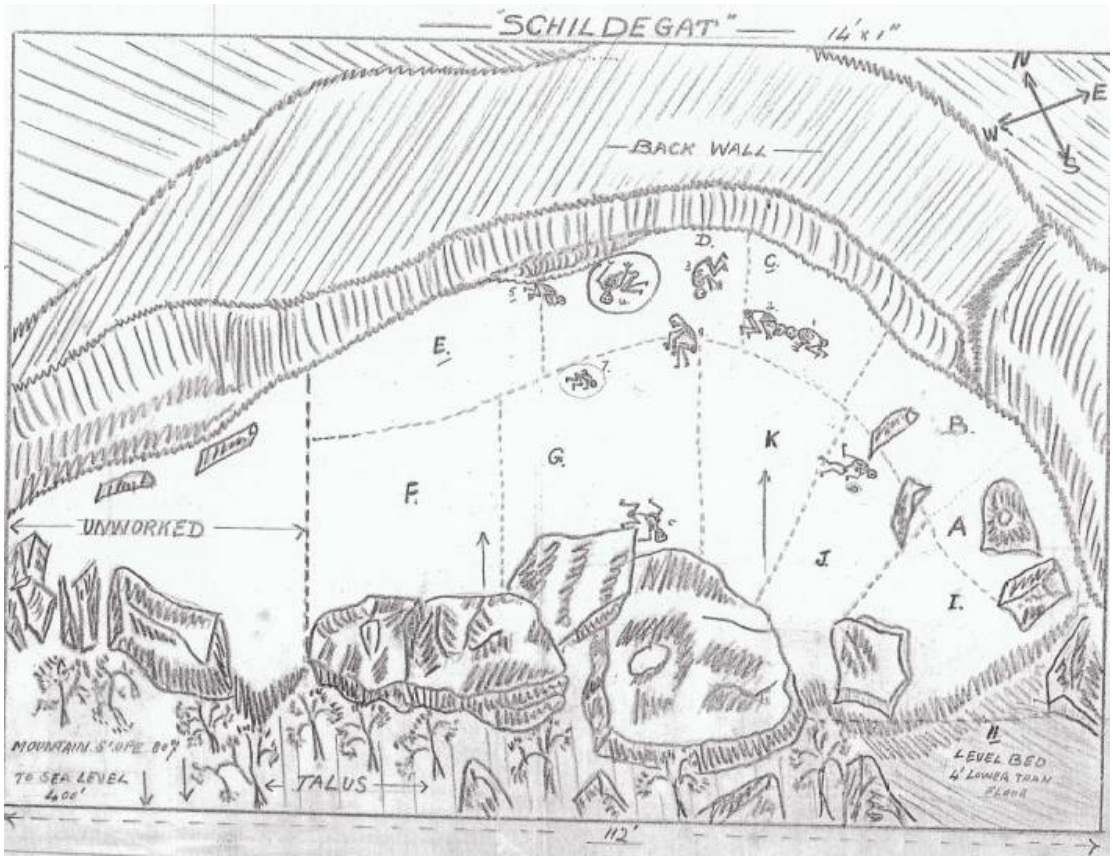

Figure 13: Illustration of Peers Cave, divided into areas A-H from the Peers excavation, showing the distribution of the nine burials and the "unworked" witness-bulk to the left. (Archives of South African Museum)

2.4.2 Layers and dating

There have been, as earlier mentioned, confusion about the different layers and the sequence of the different lithic industries from Peers cave. The three excavations, Peers 1926-29, Jolly 1947-48 and Anthony 1963 describes this phenomenon in very different ways (table 5, 6 and 7). There are at least two visible major mistakes made by Anthony, which could clear up some of the confusion. Volman (1981: 173) interpreted the lithics from the Anthony excavation of being an early MSA tradition, and suggest that Anthony might have dug her trenches in the earlier excavated areas of the Peers' (personal communication Volman 24. Feb. 2008) If one looks carefully at the illustration made by the Peers' (figure 13) and compare it with the illustration made by Anthony (figure 10), it is clear that Anthony must have misinterpreted the extension of the Peers excavation. She does mention in her report, that the notes from the Peers excavation were first obtained after the 1963-excavation had finished. The other mistake made by Anthony was referring to the lithic material from her excavation as Still Bay material, when it was clearly not. Still Bay was typologically defined by bifacial points, and there was none in Anthony's collected "Still bay" material. She thought she had found an untouched area between the Jolly and the Peers excavations, and referred to the material as Still Bay, only because that was what she expected to find.

Jolly's mistake from the excavation in 1947-48 was that he cleared out most of the witness-bulk, covering 21 square meters, and 2,1 meters in depth, and this was all poorly documented. Jolly described the layers as LSA – Howiesons Poort – Still Bay. While The Peers interpret it as LSA – Still Bay – Howiesons Poort – Still Bay. Volman (1981: 167) have suggested that the Peers' "coarse Still Bay" might be LSA material, while Yates (Minichillo 2005:) has interpret this as Post Howiesons Poort material. There is agreement that the Still Bay most probably underlies the Howiesons Poort, supported by the dates from Blombos, but there are still some problems describing the whole sequence from Peers Cave.

Dated material from Peers Cave are only from the Anthony excavation, and the material dated was beyond the method of C-14, and is therefore useless. Fish Hoek Man, was found with a Still Bay bifacial point. The skeleton was first dated to 12000 ya. Minichillo (2005: 122) operates with an apparent redate of 4800 BP.

2.4.3 The condition of the lithic-collection

In 1943 notes of the Peers collections inventory were made by E.E. Mossop a medical doctor, and H.S. Jager an amateur archaeologist and mayor of Fish Hoek (Mossop & Jager 1943). It is here the true tragedy of Peers Cave comes to light, they discovered the poor marking of the

lithic material. They could not with certainty establish the origin of the whole lithic collection, some having come from the other five sites excavated by the Peers' (when they were practising their excavation skills) and some came from private collections of surface finds (Deacon and Wilson 1992: 4).

When I opened the first boxes from the Peers excavation, I discovered that the condition of the lithic collection was even worse than I feared. Not only were most of the diagnostic pieces missing in their great numbers as described by Peers (1929), but the assemblage was in very poor condition in regards of system and marking. Very few of the boxes and bags containing the lithic material were sorted and marked with the areas A-H (from the excavation notes), and most were not even marked with which layer they belonged too. A few boxes were marked with inches of depth, and there might be possible to connect them to approximately layer, but still this would be more of a guess than a fact. Many of the boxes were also marked with "uncertain origin", that they might be from Peers Cave or other sites, possibly in the Fish Hoek Valley. There were also many empty bags inside the boxes, and many bags and boxes without any labels at all.

Figure 14: One of the many boxes from the Peers' excavation. Marked with Shelter A/101, Level? The number 16 is probably the number of the box given by Mossop and Jager.

The Jolly collection was unfortunately also missing a lot of content, especially the diagnostic pieces of Howiesons Poort and Still Bay. I was expecting to at least find the collection in a better state with regards to system and marking. Regretfully, I discovered that the excavation report is missing from the archives of Iziko, South African Museum and was not to be found at the University of Cape Town either. There were only a few handwritten pages from a

journal kept by jolly, and these were unreadable. Nevertheless, the boxes and bags containing the lithic material were marked with coulombs/squares: C,D,E,F,G,H,I,J,K. But the marking of levels, was only labelled with inches and not in regards of layers, even some such as: "roof-64" , "disturbed-64" and " → 64". The whole collection amount to only five boxes in total, even though Jolly excavated 21 square meters and 2,1 meters in depth. One does wonder where these artefacts might have gone. When I contacted Minichillo with my inquiries regarding the Peers Cave collection, he mention that some may lie in Fish Hoek Valley Museum in Simonstown, after he first kindly had recommended that I should ask for another lithic collection to do my thesis on (personal communication Minichillo 27. Feb. 2008). I do understand his concern, because by the looks of the lithic assemblage, it's almost impossible to analyse the material in terms of today's strict criteria. However, it still holds some possibilities in making observations regarding the content of the collection and the stone tools that are present.

As for Fish Hoek Valley Museum, there are a number of Still Bay bifacial points and Howiesons Poort segments on display in this small museum, hidden away in Simonstown. The staff inform, that this material is from Peers Cave, from both the Peers' and the Jolly excavations. The Still Bay bifacial points are displayed as Howiesons Poort material along with the backed segments and cresents. From the 16 bifacial points, three are unfinished and three are broken. As well as LSA material, ESA handaxes are also at display. The staff members tells me that the handaxes are probably not from the Peers Cave collection, but from other sites in the Fish Hoek Valley.

Figure 15: Bifacial points from Peers Cave on display at Fish Hoek Valley Museum. Photo by author.

Still the numbers of bifacial points are greatly reduced, compared with Peers' descriptions of hundreds. Mitchell (1998) provides a further explanation for this. South African archaeology in the late 1800's to the early 1900's can be described as amateur archaeologists and antiquarian collectors. The stone artefacts were collected and compared with European examples, in this process many collectors sent some of their finds to Britain to reach a wider scientific public. The 1920-30s were when the largest samples were acquired by the British Museum (Mitchell 1998: 29). Skildergat (Peers Cave) is mentioned as one of the sites with material apparently housed by the British Museum (Mitchell 1998: 27). My enquiries at British Museum did not produce as much information as I had hoped, but there was one stone artefact that proved to be from Peers Cave. Registration number: Af1979,01.4731 from the Department of Africa, Oceania & the Americas, British Museum (figure 16). When magnified, note on back reads: *"From Skildergat Cave, Fish Hoek, Cape Town S.A. ….. H.J.B 1929 (natural markings)"*. Some further investigations showed that the letters H.J.B

Figure 16: Stone implement from Peers Cave, housed by the British Museum.

also appeared on some photographs, on the back of one photograph reads: *"On the way to Skildegat Cave, visible high up in the distant rock escarpment. Fishhoek [sp. ?], Cape Town. July 1929. British Association Party: - (left to right) H. J. Goodwin, Mrs Harpee Kelly, the Abbé Breuil, (Mr Harpee Kelly behind) Professor Fleme, G. A. Garfitt. (Shadow of photographer's head, H. J. B.) H. J. Braunholtz."* It appears that Mr. Braunholtz was one of the visitors at the joint meeting of the British and South African Association for the advancement of Science in 1929. This unfortunately proves, as I have feared, that the Peers Cave material also ended up in private collections. Visitors of scientists and others most probably all left with souvenirs from the Peers collection. They also probably left with the finer examples of the stone tools as well, this being common practice in the early 1900's (personal communication Henshilwood Oct. 2007).

The lithic material from Anthony's excavation on the other hand, all the material seems to be present and then some. The lithic assemblage from the Anthony excavation is very large and not only contains the chips and chunks of debris, but also a lot of roofspall, broken and chrushed rocks from the blasting incidents at the cave. This assemblage holds possibilities for a technological analysis, the only problem being that this is not Still Bay material.The material from the Volman et al. excavation from 2002, was not available for study, Volman were at the time working on the collection and finishing the excavation report.

2.5 Summary and research questions

As we have seen, with new improved dating methods and the resent excavations of the South African MSA sites there was a new found chronological control of the MSA lithic sequence. This has resulted in a shift in explanatory frameworks especially concerning the theory of modern human evolution and FSSB, supported by the important finds from Blombos Cave.

Typological classification have for a long time been the traditional method of researching the MSA lithic material, building on almost a century of research and supported by resent dating this is still an essential tool in the study of the MSA.

Technological analysis in the terms of chaîne opèratoire provides wider understanding of the technique and the production of the lithic artefacts, and addresses not only the practical aspect of the stone tools, but also the social and symbolic aspects. The theoretical framework of chaîne opèratoire constitutes that all the operational sequences that in sum forms the technological system is part of a wider web of meanings and can also be seen as social and symbolic expressions.

Typological and technological classification combined with a refitting analysis and a study of macro fractures can contribute to the debate on Still Bay. The study goal is not to make any general assumptions concerning origin or evolution of symbolic behaviour, but address essential questions regarding production techniques, place of manufacture and the use/function of the bifacial points.

The different collection and recovery practices means that the artefact samples from the three different excavations does not have the same value for analysis. The total sample is considerably very large, which could be an advantage, but the retention of artefacts and fauna has unfortunately resulted in grave losses of information. Another tragedy being the poor condition of the Peers and Jolly assemblages, in regards of system and marking. This makes a formal refitting analysis of the bifacial points difficult. Nevertheless even the sample from the Peers' excavation is still worthy for a lithic study based on observations of technological

details, keeping the bias in mind. The sample from the Anthony excavation holds possibilities for a refitting analysis, however the recovered material is not Still Bay.

The Peers Cave material is in sum so restricted in terms of analysis that when it comes to the Still Bay research questions, chances of discoveries are somewhat slim. In addition to the Still Bay research questions it is a necessity to record all factors that can shed some light on the mystery of Peers Cave and its content. As mentioned before, no formal publications have ever been made to establish what is in fact present and what is missing from the Peers Cave collection, in terms of Stone Age material. Other more traditional problems concerning the selection of raw material, as well as industries present, and the sequence of these industries will also be addressed.

Chapter 3: Lithic Analysis

3.1 Lithic analysis, Victor and Bertie Peers excavation 1926-29

From the 35 boxes of material, from the museum storeroom, 25 were marked with: “Peers Cave, the Peers exc.” Or “A/101” (which would mean the same thing). 9 boxes were marked with: “unknown origin, probably Peers”. 1 box with the initials: “SGK, Fish Hoek” (which is most likely the site Skildergat Kop, excavated by Jager. It is not from the main shelter A/101 but near the Cave site).

As I have mentioned, this collection is not suitable for a formal lithic analysis, still it is important to record and document the collections content. All this material was therefore studied informally, yet the assemblage was gone through stone by stone. To make notes about the collections content and to more carefully study the pieces that was particularly informative concerning the Still Bay research questions.

3.1.2 The LSA material

The LSA material is also as the rest poorly marked and sorted. There are some small fine silcrete micro cores, and bladelets mixed in with MSA material in at least four of the boxes. There are also some pieces of modern porcelain in the same boxes, might be from surface cleanings. Many small backed blades, flakes and cresents of the described Wilton Industry. The largest sample is from the C/103 and F/107 and not the main shelter, however there are also a bag labelled “A/101, surface” which also contain these implements.

Figure 17: Wilton implements from Peers exc. Shelter F/107, small lookout post in the hills, 6 inches

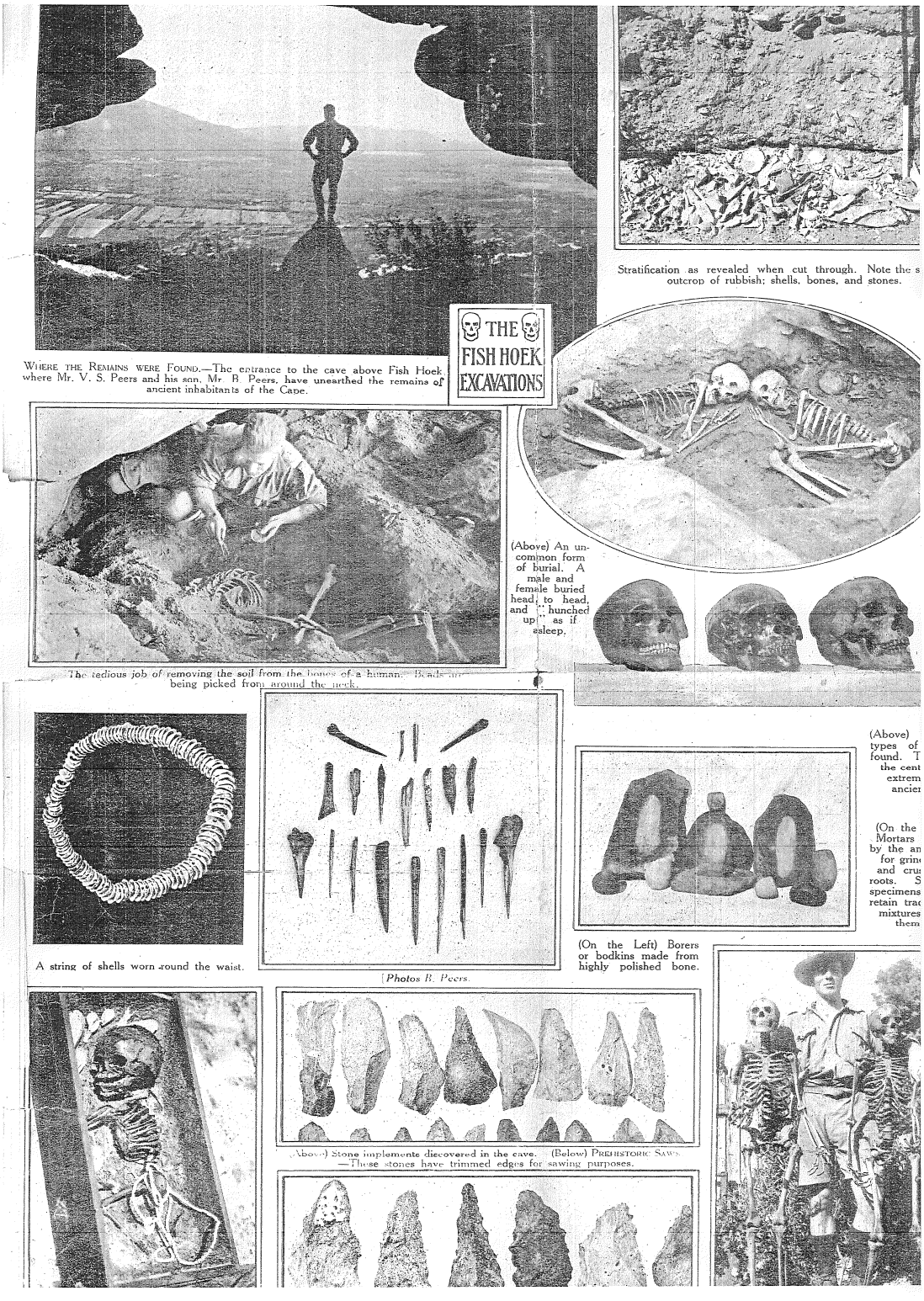

Figure 18: Page from a newspaper article, August 1945. Archives of Iziko South African Museum.

Upper and lower grinding stones are present, hammer stones also occur in this assemblage. There is however few descriptions of depth/layer, most boxes and bags only marked with A/101. One box contained some examples of shellfish, bones, and a few pieces of ostrich eggshells labelled 8-16 inches which would be consistent with Peers' layer II. There was also

some ostrich eggshell beads and shellfish beads labelled 8-16 inches. There is a note in this box which states that some of the beads were moved to a special finds box signed with the initials: P.M. and Y.A. In another box containing some empty bags marked with bone points, note reads: box number 18 and 100, bone points removed to African studies, RY (probably Royden Yates). Most of the ochre have been sorted into one box and amounts to a large assemblage, with many worked pieces (striation marks from grinding and scrape marks) also some crayons. But there are no descriptions of associated depth, but from the Peers' notes these are most likely from the LSA layers. There are a few bags of ochre that are associated with MSA material in some other boxes, but not nearly as many as in the LSA.

According to the Peers' descriptions of the LSA layers, the Wilton Industry overlay the midden-layer associated with the burials, or was at least only found in the upper levels. The interpretation was that the "strandloper culture" with the ochre, grinding stones, bone points, shellfish and ostrich eggshells was prior the Wilton Indusrty (Peers 1929: 2). However, these assumptions were made by a few surface finds of Wilton implements in the western end of the cave. Some of these "strandloper" burials can be seen as fairly resent, according to finds of iron beneath them (Volman 1981: 167). As I have gone through all the material, I find that the reported finds from the excavation is all present in the collection. Nevertheless, not in the great numbers that would be expected, especially the grave goods such as beads are largely missing. Only some old photographs can give a glimpse of what the original Peers collection must once have contained of LSA material (figure 18).

It has been assumed that the name Skildergat/Skildegat means "painters' cavern" from the Afrikaans word *skilderye,* and that the cave got its name because of this visible rock paintings (Jager et al. 1941:7). Peers (1929) stated that the name probably derived from a farm-handler called Schilder who had sought refuge in the cave sometime in the mid nineteen century.

The cave paintings recorded by the Peers, have been somewhat doubted. The paintings existence was even questioned by Goodwin in 1929, where he claimed that the cave showed no signs whatsoever of cave-painting having been practiced there (Deacon & Wilson 1992: 1). No certain visible traces are left from these paintings today. Nevertheless, there are a number of possible explanations for the sudden disappearance of the cave paintings. The rock blasting would undoubtedly have sat its mark on the cave walls and roof, the secondary crushing could have destroyed the paintings altogether. Another explanation is that the paintings could have been damaged by smoke as the cave has been used as a camp site in modern times, there are traces of modern fires and broken glass in the cave. Another later sin

committed to Peers Cave was graffiti, by the 1980 the cave was covered in graffiti and then later the cave was cleaned up by the county of Fish Hoek, but they would also have removed the last remnants of the original cave paintings doing this (persona communication staff members of Fish Hoek Valley Museum). There are a number of drawings made by the Peers, to replica the cave paintings, which lies in Iziko South African Museum. The cave paintings from Peers Cave showing only dots, lines and grids indicate that they are trance related. The large arrow (figure 19) is unusual and might have been a more resent addition (Fish Hoek Valley Museum 29. Feb. 2008).

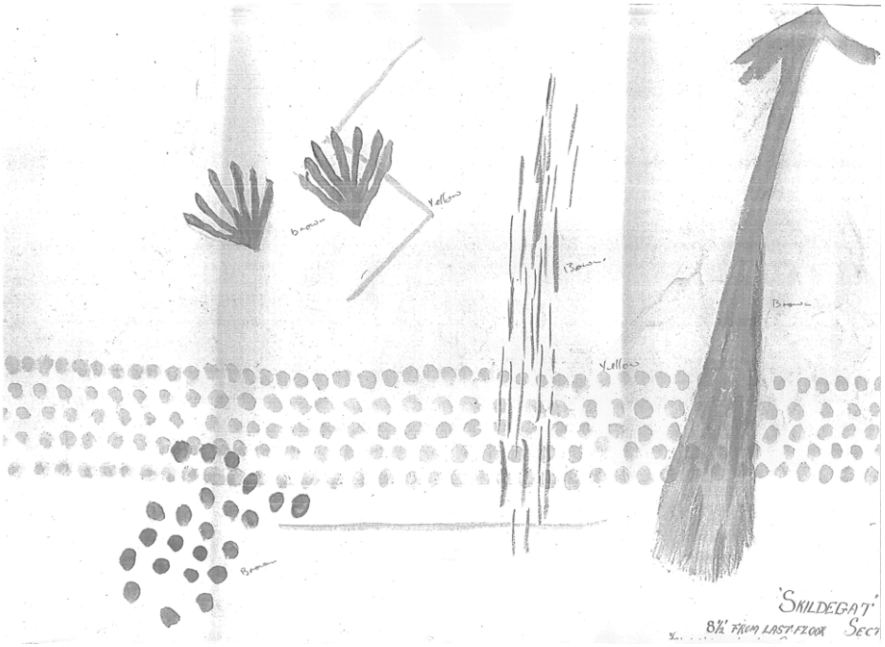

Figure 19: One example of the illustrated cave paitings from Peers Cave. Archives of Iziko South African Museum.

Figure 20: Muriel from Fish Hoek Valley Museum, a recreation of LSA life at Peers Cave, with the higher sea-levels the cave would have been a coastal site.

3.1.2 The Still Bay bifacial points

I have found in total 46 bifacial points in the collection from the Peers excavation (not including the 16 bifacials in Fish Hoek Valley Museum), not all are with certainty from the A/101 shelter, but most of them are. 23 of these bifacial are broken. In addition, there are 6 replicas in cast of bifacial points. This is at least more than Minichillo (2005: 149) studied in his PhD, but still it is a pale shadow of what the collection once must have held as reported by the Peers'. There are also 4 unifacial points in the collection, of which two are very nicely made.

Figure 21: 8 pieces of bifacial points in a soft degraded material, most probably red silcrete. Peers Cave A/101, depth uncertain, might be 2feet 6iches – 5feet, from section E. Scale in cm.

The preferred material of the bifacial points seems to be non-local, silcrete and very fine grained quartzite in various shades of grey, tan and red. There are a few rare examples of coarse local quartzite. When I refer to "local quartzite" I mean the quartzite from the rocky hill in the Fish Hoek Valley in which the cave it selves consists of. I prefer using the term "non-local" to the suggested term "exotic" by Minichillo (2005: 82). For using the term "non-local" I'm referring to material not found in the immediate proximity of the cave, but still not knowing the origin of the material.

The poor marking of the collection makes it hard to say anything further about the sequences of the layers. If there were an intervening layer of Howiesons Poort, if the upper layer of Peers' "coarse Still Bay" differs from the lower sample of "proto Still Bay" or if the "coarse Still Bay" layer can be seen as Post-Howiesons Poort or even LSA material, these

questions will for the time being go unanswered, and not be further addressed here. There are only a few descriptions of associated depth concerning the Still Bay points. 4 silcrete bifacials from the Peers' sections D,F and G are marked with 8feet (figure 23), while the 13 bifacials marked with section E drivers from 2feet 5inches – 5feet. From the Talus trench the bifacial are marked with 3feet 6inches – 4feet 6inches and 6-7feet. Other examples of bifacials where no section is mentioned, are marked with variable depths from 6 – 9feet and 9feet. It can be argued that the bifacial points from the deepest levels are slightly larger in size, however the sample is too small and keeping the bias of the collection in mind this assumption can not be counted as a valid one. The size of the bifacial points, that are not broken varies from approximately 3,5-10cm in length and 2-5cm in width and a thickness of 0.5-2cm. There is also a large variety of the shape/style of the bifacial points from all levels (figure 22, 23).

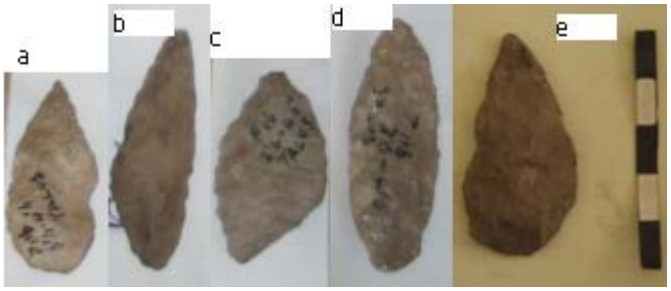

Figure 22: Bifacial points from Peers Cave, A/101. a,b,c,d) various shapes from the talus thrench 3feet 6icnhes – 4feet 6inches. e) unknown section and depth. Scale in cm.

Figure 23: Bifacial points from Peers Cave A/101 sections D,F and G marked with 8feet. Scale in cm.

From the thin elongated double pointed bifacials to the ones that have a more rounded butt/proximal end. The typical laurel-leaf shape occur in different size and shape, there are also a few rare examples of the wider teardrop shape. The two bifacial points from the box marked SGK is associated with Howiesons Poort segments, but most likely not from the main shelter A/101 have a teardrop shape unlike the majority in the Peers collection, similar to the one example in figure 22 e).

As for the chaîne opèratoire, I have noticed a few factors concerning the production of the bifacial and unifacial points from Peers Cave. The first and most evident factor is the lack of cores and debris of non-local material. There are a few exhausted small silcrete cores in the assemblage, but these are mostly associated with the LSA material. Some of the debris

would probably not have been collected during excavation, but the cores most definitely would, there are numerous irregular, radial and change of orientation cores in the local pinkish-grey quartzite associated with all the MSA implements in the collection. Nevertheless, the bifacial and unfacial points were predominantly made in non-local material. This could be an indication that the first stages of the chaîne opèratoire probably did not occur at the cave site. Theoretically, if one would have to travel a long distance to collect the preferred raw material, it would be more practical to work the raw material achieving the desired flakes and blades at this location, than to bring back large heavy manuports to the cave site. Peers (1927: 6, 1929: 8) frequently underlines the interpretation of Peers Cave as a manufacturing site for the bifacial points in his reports, because of the many rejects and hammerstones. There are rejects and hammerstones in the assemblage, a few examples of partially worked points, and some possible knapping mistakes that would have resulted in the point being discarded. But still this only indicates that the last operational sequences of the production was conducted at the cave. Two artefacts were particularly informative concerning this problem (figure 24). One large flake and one unifacial point in a rare very fine grained brownish-red quartzite. The material is quite unique, and the two artefacts are so similar in size and shape that they are with the highest probability stuck from the same block of material, and probably also the same core. This material is easily distinguished from the other raw material in the collection, and as I have not been able to find any core, core-fragment, an exhausted core or even any form of debris in the whole collection in the same raw material, it could be assumed that the first sequences of the production was conducted elsewhere.

Figure 24: Flake and unifacial point from Peers Cave A/101 6-9 feet. (left dorsal sides, right ventral sides). Scale in cm.

Keeping the bias of the collection in mind, large amounts of the material is missing, and some debris was probably not collected during excavation. But in order to achieve this visible lack of cores and debris of non-local material, one would systematically have avoided sampling this particular material, which is not likely the case.

The first stages of the production of a suitable flake, as I witnessed when Vincent Mourre was making a replicated Still Bay point, produces a large amount of debris, big chunks as well as small chips and dust. It is possible that the two artefacts were brought to the site as unprepared flakes and then one was knapped into a unifacial point, while the other flake for some reason was discarded (after three small removals of notching, that might have been knapping mistakes or result of edge damage).

The second evident factor of the production sequence of the bifacial points, is flake manufacture. These two artefacts also support the theory that the preferred technology was first to prepare a suitable large and thick flake or flake-blade that would again be shaped by bifacial/unifacial retouch/thinning. There are several of the bifacial points from Peers Cave that shows remnants of a pronounced bulbs, and even in some cases inhabits part of the original core platform from where the flake was once struck (figure 25 B). There are however also some possible rejects/performs in the collection suggesting a different method of the initial stages of the production, for achieving the desired shape (figure 29). These suggest a reduction sequence of flake removals directly from a core, where the core eventually achieves the desired shape, and then further reduction in the form of bifacial thinning shapes the point.

As for this later stage of the production, the dorsal and ventral scars of the finished bifacial points shows small removals with diffuse negative bulbs, they are however not so evenly executed as would have been expected by a pressure-flaking technique (Villa et al 2009: 446-467). The last sequences of the production were more likely done with direct percussion of a softhammer, or maybe in some cases also indirect percussion.

The breakage patterns of the bifacial points from Peers Cave were only evaluated through the study of macro fractures, fractures that are visible without the use of a microscope, while this was not available when I was researching the material. Many of the fractures are most likely the result of accidental breakage. The lithic material was walked on by Stone Age people, and in some cases even trampled on by animals, the artefacts could also have been broken during knapping or excavation (Lombared 2005a: 115), the latter particularly probable in this case, keeping in mind the mining techniques used by the Peers'. However, some of the broken bifacials most likely also represent damage during use. I have not been able to find any clear diagnostic impact fractures on the broken points, except for

some possible spin-off fractures like the one in figure 26a, which seems to be on the proximal end of the point. This does not exclude the possibility that the points were used as hunting tools like thrusted/thrown spear armatures or arrowheads altogether, diagnostic impact fractures can only verify this use if they are present and can not exclude this possibility if they are absent. But as Minichillo (2005: 127) mentions, the absence of diagnostic impact fractures could indicate that the bifacial points at the cave site might predominantly have been used in a different way, not being exposed to forceful longitudinal collisions with other objects.

The most common breakage patterns of the bifacial points is a clear break (snap/bending fracture) of the distal end (the business end) figure 25 B, this could be an argument for a break caused by use or impact rather than accidental incidences. A snap fracture can be the result of manufacturing errors, use, impact or trampling (Villa el al. 2009: 448-449). A few mid snap breaks are also present, but more informative is the factors indicating reuse/recycling of the bifacial points. There is one example that show resharpening/thinning of one of the business ends (figure 25B), while the other part (two thirds) of the point remains unaltered, suggesting that the point was hafted when it was resharpend. Other points show signs of reshaping by notching of the lateral edges (figure 28).

Figure 25: Bifacials from Peers Cave A/101, sec. E, 2feet 6inches – 5feet. A) Bifacial with traces of thinning/ resharpening while hafted, and a slightly darker patina (possible resin residue) where the haft have been. B) Bifacial with a clear break of the distal tip, very common breakage pattern in the collection. The proximal end shows remnants of the bulb and the original core platform. Scale in cm.

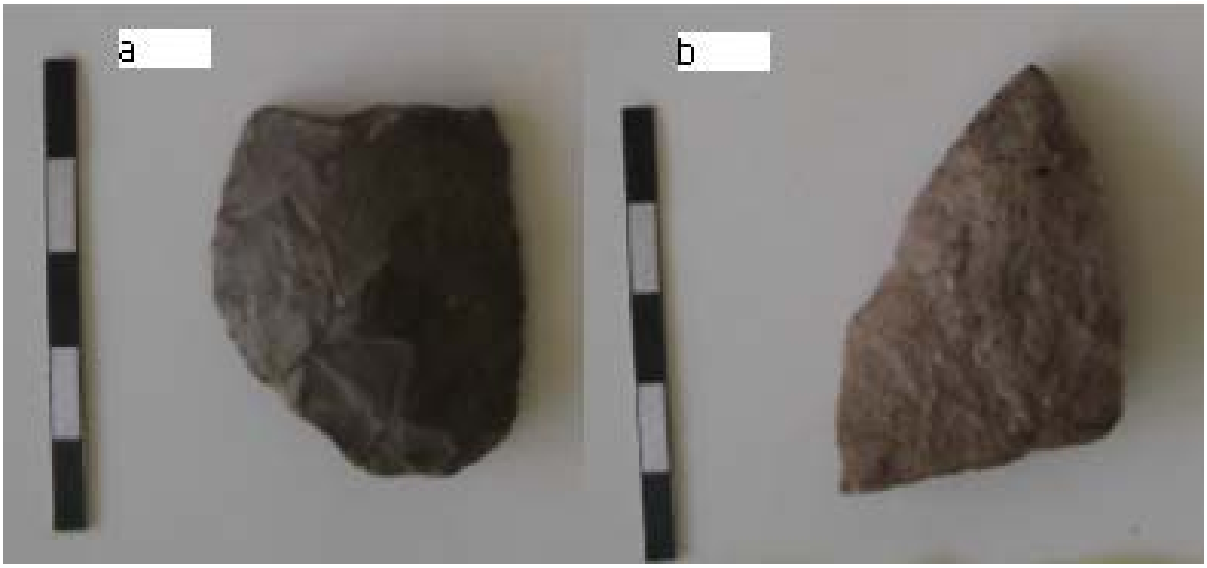

Figure 26: Bifacials from Peers Cave A/101, sec. E. 2feet 6inches – 5feet. a)Broken silcrete bifacial, proximal end with possible spin-off fracture, distal end missing. b) Distal end of a bifacial in local quartzite.

Figure 27: Broken bifacial point from Peers Cave A/101, section E, 2feet 6inches – 5feet. Snap/bending fracture S-shaped.

Figure 28: Bifacial from Peers Cave A/101 depth unknown, showing notching.

The Peers Cave bifacial points show similarities to the once found at Blombos Cave. The study of the Blombos Cave bifacial points was recently undertaken by Paola Villa, Marie Soressi, Chris Henshilwood and Vincent Mourre (2009). Similar to what I have found in the Peers collection, the Blombos Cave bifacial points also varies in size and shape. Also here the most common break of the bifacial points were bending/snap fractures, and reasonably common was recycling/reshaping in the form of notching of the lateral edges. There were three examples that showed evidence of axial-hafting, suitable with an interpretation of use as spear-heads and a few examples of spin-off fractures diagnostic for the use as arrowheads (Villa et al 2009: 447-49). Axial hafting meaning that the points direction is parallel to the axis of the haft (Rots 2008: 45).However, the vast majority of the bifacial points from Blombos Cave (79%) have been interpreted as production failures/rejects. This was based on replicative studies and technological analysis of the unfinished points in various stages of the production. Two kinds of removals was observed, direct hardhammer percussions for the initial phase of bifacial shaping and softhammer percussion for the more advanced shaping of the point (Villa et al. 2009: 445-446). There was no detailed analysis of the earlier stages of the chaîne opèratoire, no refitting analysis was conducted of the Blombos cores and debitage, which could have been compared to the vague indications found in the Peers Cave collection; that the initial stages of the production might have been conducted elsewhere for the non-local material.

Figure 29: Possible rejects of the initial phase of bifacial shaping in degraded material. Peers Cave A/101, uncertain depth. Scale in cm.

3.1.3 The other MSA material

Other MSA material in the Peers collection, were the common triangular points, pointed-flakes, flakes and blades, many with notches or denticulation. Most common were the irregular cores in local quartzite. These particular artefacts seem to occur in all depths from the Peers collection except for the upper most levels containing LSA material. But there seems to be a more frequent use of non-local raw material of triangular points and denticultates associated with the Still Bay points and Howiesons Poort implements than the deeper levels. There are examples in bright yellow, orange, white and red colours of fine grained quartzite and also a few in milky quartz (figure 30). Cores and debris are absent or at least very rare in the non-local material. The MSA material from the levels deeper than 9feet, some marked with 8-10feet or beyond 10feet, differ from the upper levels. This material is similar to what Anthony dug in her excavation. Coarse quartzite and some degraded material, a few triangular points, flakes and irregular cores, but blades or flake-blades are less frequent. Denticulation and notching does occur, but is still rather uncommon. What this early MSA material mostly resembles is difficult to say, it is mixed in with the other Peers Cave material,

Figure 30: Flakes, pointed flakes and denticulates in colourful finely grained material from Peers Cave A/101, marked with JAB 8feet.

and there are no associated dates. It might show similarities to the Mossel Bay or Klasies River sub-stages, but might again be something entirely different. There are only a few rare examples of choppers and cleavers, and some of these also fit the criteria of cores. One distinct chopper, with a clearly worked edge was marked with "Peers Kendrew?" and probably not from the cave site.

The Howiesons Poort backed artefacts are present, but most lack descriptions of layer or depth, there was a few associated blade cores and blades. No further analysis was conducted of the Howiesons Poort material, but there was one very unusual discovery that is worth mentioning here. In a box clearly marked with A/101 and various levels from 6-10feet in depth, one bag was marked with A/101 and 8feet containing three pieces of obsidian, two pointed flake-blades and one Howiesons Poort backed cresent (3,5cm in length). In the same bag were a few pieces of quartz crystal and two small silcrete bladelets and one silcrete cresent (2,5cm in length maybe Wilton industry). It is possible that this material is LSA, but the associated depth of 8feet does not correlate with this interpretation. This unusual find are not mentioned in Peers' (1927, 1929) reports and could be an example of the poor system and marking of the collection, Sarah Wurz did make a remark that this clearly did not belong in the Peers Cave collection (personal communication Sarah Wurz, Dec. 2007). If that is the case, it would mean that even the few existing descriptions of the material can't be trusted. On the other hand, Mossop and Jager's (1943:12) notes confirm that the content of box 81 marked with A/101 J.A.B 8feet also contained obsidian flakes. There is a possibility that some of the Peers Cave material derivers from some of the other sites in the Fish Hoek Valley excavated by the Peers, but the obsidian pieces would have been just as out of place here, as if they derived from the main shelter A/101. A few examples of MSA sites both from Kenya and Tanzania shows evidence of transported obsidian from distances up to 200km away, dating to late Middle Pleistocene and indicates either a vast increased use of geographic space, or the existence of trade (McBrearty 2007: 137).

Ochre is also present amongst the MSA material, it is sorted out in separate bags without descriptions of depth or section but is found in the same boxes as the MSA material. The ochre pieces are not as numerous as the boxes associated with the LSA material, but some of the pieces inhabits the same striation marks from grinding, a few rare examples of crayons with a pointed shape. I was not able to find any signs of engraved ochre in the whole collection. As for the shellfish, it is impossible to say where the few selected samples derivers from, most of them probably from the midden-layer. *Haliotis Midae, Perna Perna* and *Donax Serra* were among the most common species in the collection.

3.2 Lithic analysis, Kieth Jolly excavation 1947-1948

The lithic collection from the Jolly excavation holds a somewhat better possibility for a refitting analysis, while this material is sorted and marked with sections and associated depths (even if the descriptions of depths are somewhat vague). The material lack a number of diagnostic artefacts, and also possibly most of the associated debitage, and the chances of making refits are therefore slim, but it is still worth a try. Unfortunately, the excavation record is missing and selecting a suitable sample for the refitting analysis lies only in the observations made when studying the whole collection.

3.2.1 Lithic study of the collection content

The museum collection from the Jolly excavation amounts to only 5 boxes in total. One of these boxes was originally marked as Peers excavation but changed to Jolly excavation. One additional box was originally marked with Jolly excavation, but later recognized as not being from Peers Cave at all.

The first impression when going through the material, is that the collection must lack large amounts of material, compared to the 44,1 cubic meters excavated by Jolly. The LSA material is almost completely absent, and only a few rare examples of diagnostic pieces of the Still Bay bifacial points and Howiesons Poort backed artefacts are found. Some of this material might be mixed in with the boxes from the Peers excavation, as many were only marked with Peers Cave and uncertain origin. Another evident problem with the collection is the marking of levels, inches and feet below the surface. It is likely that Jolly followed the Peers' white painted line on the cave wall, which represented where the surface of the deposits once had been, prior to any excavations. There are a few notes in the Jolly collection that reads; "*…inches below white line*". Only describing levels of inches and feet and not the associated layers also assume that the MSA people lived in a strict horizontal line, which is not likely the case. It is therefore hard to determine from which period the artefacts deriver.

The sample I chose from this collection was Jolly's Column J8, J9, J10 and J11 all levels. The levels in these columns start at 45 inches and end at 64 inches, suggesting that the upper levels are missing or that this part of the excavation was a continuation of where the Peers' had left off. The material from these levels all seem to be from the MSA.

This sample was chosen for two reasons: first, the presence of a broken bifacial point in a very distinct material and second, some of these units/sections (or the term used by Jolly columns) have most probably not been studied before. The lithics in some of the bags were

covered in a black, dusty sediment, and have probably not even been looked at since the excavation. These artefacts were carefully rinsed off in cold water and left to dry. The artefacts were then marked with a colour tape coding the different levels and in addition a photographic database was made as a backup, in case some of the markings would come off. The 391 artefacts were then studied and put into a database (appendix 1), measurements were taken of the formal tools, pointed flakes/flake-blades, blades and cores. All the artefacts were sorted after the criteria; levels, columns, raw material, type, presence of retouch andbreakage.

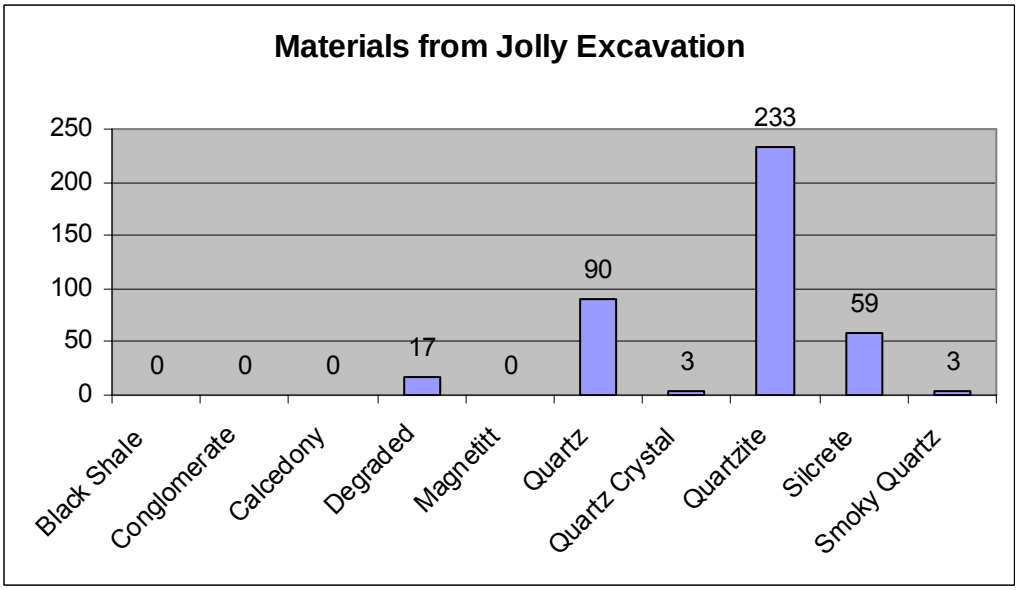

Table 8: Raw material from Peers Cave, Jolly excavation. J8-11 all levels.

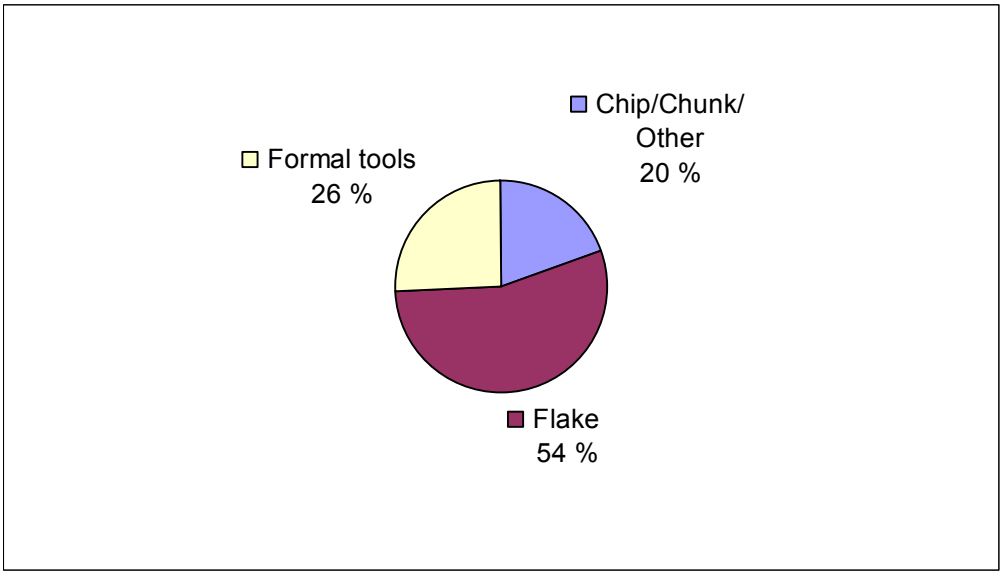

Table 9: Allotment of the lithic collection from the Jolly excavation, J8-11 all levels. Peers Cave. Pointed flakes, cores and blades are included in the category of formal tools.

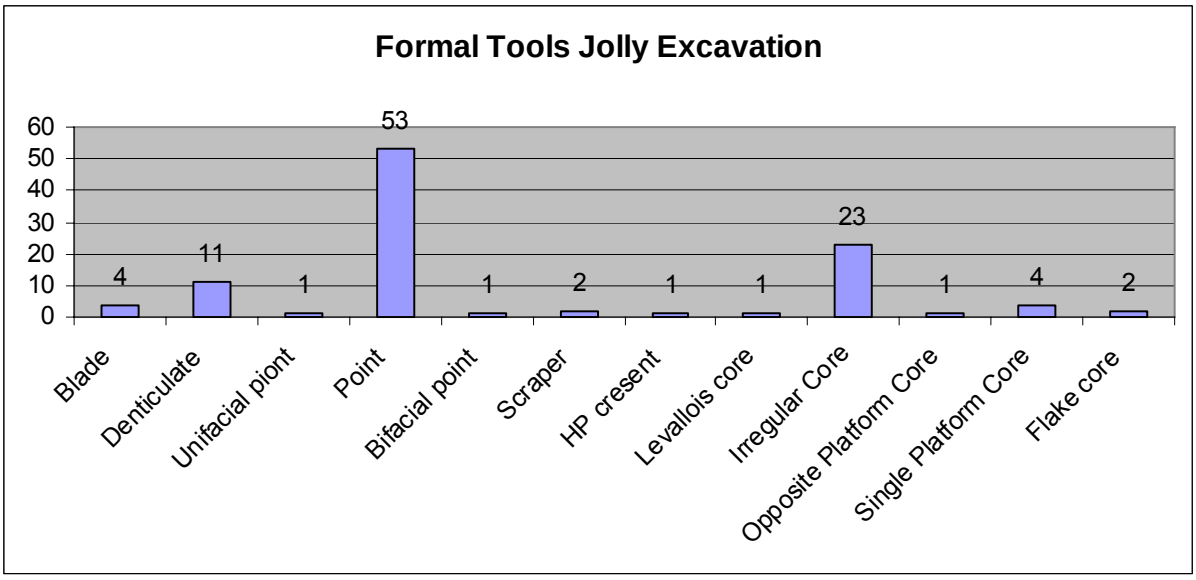

Table 10: Formal tools (including cores and points without retouch and blades) from Peers Cave, Jolly excavation J8-11 all levels. The term point includes pointed flakes and flake-blades.

It is not possible to make any certain conclusions from this analysis of the lithic material, and even harder to make any observations concerning the research questions, while it seems rather impossible to distinguish between the layers and periods of time the artefacts deriver from. Not knowing what lithic material that is missing from the collection also compromises the validity of the representative sample.

This sample most likely only contains MSA material, and from table 8, 9 and 10 one can make certain assessment regarding the content of the collection. The utilization of raw material in this sample suggests that quartzite was the favoured material, both local and non-local, second is quartz and third silcrete. The relative small percentage of debris present suggests either that most of the lithic production was not conducted in the cave, or more likely represents the bias of sampling during excavation. Triangular points, pointed flakes and or flake-blades along with irregular cores are the most common artefacts, which is not surprising, these particular artefacts are classic finds through most of the MSA. There are indications, for example, that in the Boomplaas sequence from the Cape Fold Mountain Belt large flake-blades and points of 'classic' MSA form continued in use until some time after 32,400 BP (Mitchell et al. 2001: 35).

3.2.2 Refitting analysis

The sample (J8-11 all levels) was sorted into groups of raw material; quartzite, quartz, silcrete and other. The artefacts were then sorted after grain size and colour variations. Raw material is essential in this process, distinct, rare or unusual material can indicate that two or more artefacts most likely have been struck from the same block of material, also without

making direct refits. This could give information about technological details in the production sequence and also verify eventual movements of the artefacts up or down in the layers.

Only six refits were made, three in quartz and three in quartzite. Unfortunately none were informative as they all looked like new breaks (fresh breaks) of fragile artefacts, tips of points and one flake middle break. The refitted pieces derived from the same bags and levels, and the breakage is most likely due to the museums moving and storing of the lithic collection. Still I have managed to find a few similarities in raw material, even though lot of the material is very homogenous in colour, and a few informative pieces concerning production and breakage patterns (artefact number, is the number given in the database, appendix 1):

Raw Material

- **Artefact nr 116 and nr 161** Two flakes, are the same sort of material, dark red quartzite, with some dark lines. Most likely struck from the same block of material, but sadly the levels can't tell us anything here either, as it might have been the same.
- **Nr, 191, 192** (J+K 9-10 54-74'') and **nr 313** (J10 57-64'') are most probably struck from the same block of material. Very distinct colour, bright yellow/orange with dark lines in fine grained quartzite. But level doesn't say much.

  Nr 303 and 304 are same exact colour and texture, fine grained beige quartzite. Large flakes. However both deriver from same column and level (J10 53-57'').

Cores

- **Nr 31** from J8, 54-64'' or 54-62''(inches) is a single platform core in local quartzite, with only three removals, directly beside each other on one side. No refits, but core maybe abandoned while the removals probably didn't come off as planed, there is a hinge/step fracture where the removals never got past. Suggesting either a poorly skilled knapper or poor quality of the raw material.
- **Nr 354** is an irregular core, greyish fairly coarse quartzite, but has distinct brown spots naturally in the material. A flake with the exact same charismatic's in the raw material, is to big to fit the cores last removal scars, but is most likely struck from the core, at an earlier stage. This flake is **nr 25** and derivers from column J8, 54-64'' or 54-62'' while the core derivers from J11 up to 64''. We can't tell by the levels, as they might be the same, but column is different. There is no way of telling if there have been any movements up or down in the layers. The other flakes (the negative

scars on the core) is however not present in this sample, and may indicate that this was the product the knapper wanted.

- **Nr 280**, J10 53-57'' is an opposite platform core. It has been worked around the perimeter, a flat upper and lower platform. The removals are small and struck from both sides. (figure 32B), could possibly be a retouched artefact rather than a core. Either they wanted these small flakes for something or the artefact is the end product with a deliberately shaped working edge.
- **Nr 212**, J+K 9-11, 54-76'' is a levallois core. Irregular removals around the perimeter to shape the last flake removal (figure 32A).

Tools

- **Nr 361** from J11 up to 64'' is the only bifacial point in this sample (figure 31 and 33A). The point is broken but the breakage pattern does not look like an impact fracture, more likely accidental breakage. The colour is red, with patches of darker red and brown, I have not seen any lithic material in that particular colour or texture in the whole Jolly collection. The red colour might have been caused by burning, as the material also looks quite dry. The dark red patches looks like silcrete, but the rest quartzite.
- **Nr 348** from J11 up to 64'' is a broken unifacial point in the common grey silcrete, as most of the silcrete in the collection (figure 31). The break could look like an impact fracture, but hard to tell, as there is a new/fresh break also in the same place (which also shows that the inner material is a lighter shade of grey than the outside).
- **Nr 175** from J+K 9-11, 54-76'' is a point, made from flake or blade in fine grained white quartzite (figure 33B). The points lateral edges inhabits alternate, (left edge direct retouch, from ventral to dorsal surface, but on the right edge it is invasive retouch formed from the dorsal to the ventral surface). This is not edge damage, so this has been intentional. The point is broken (proximal end missing), and has no butt. It is a clean steep angle break, possible impact fracture but no clear diagnostic spin-off / step fractures. Points with lateral retouch are very rare in the MSA layers from the whole Peers Cave collection.
- **Nr 74** from J8 45-54'' is a levallois point, not triangular, it is worked slightly in the proximal end along the edge, maybe to fit in a haft. In a fleckish grey silcrete. **Nr 270** from J10 53-57'' is a Triangular, levallois point. The material is quartzite, but very degraded. Might be burnt because it is so dried out, fragile and with cracks. **Nr 362**

from J11 up to 64'' is a levallois point, not typical triangular, longer and thinner. Very fine grained grey quartzite. Maybe some retouch, but looks more like edge damage.

- **Nr 338** is a blade, very thin and small (almost microlithic) could possibly be Howisons Port industry (if not LSA) from J11 up to 64''. **Nr 244** is a thin broken blade, very small (maybe Howiesons Poort but more likely LSA) with edge damage. Silcrete. **Nr 91** is a Crested Blade. Shows many previous removals across on the dorsal side. Typical for preparing a core. Grey silcrete. **Nr 336** is a broken blade (figure 33C), the broken distal end is hinged, which is a typical knapping mistake.
- **Nr 170** from J+K 9-11, 54-76'' is a unifacial scraper (figure 31), it is almost worked completely on the dorsal side. The right lateral edge is not worked while the left edge is finely retouched, and this might be the business end. In brownish grey silcrete.
- **Nr 375** is a broken denticulate, made from a very thin long flake in fine grained quartzite. It is worked on both sides. Might resemble a knife (bilateral, worked on both edges). **Nr 376** is also a denticulate, it has an unusual shape, but worked almost around the whole flake (except where butt is present). Shows signs of polish on distal end, in silcrete.**.Nr 225** is a denticulate in quartzite, made from a flake-blade. Only the one edge is worked, could resemble a knife (unilateral, only worked on one edge).

Figure 31: (left) broken bifacial point nr. 361. (Middle) broken unifacial point nr. 348. (Right) unifacial scraper nr. 170. From Peers Cave, Jolly excavation J8-11 all levels. Appendix 1. Upper scale in cm.

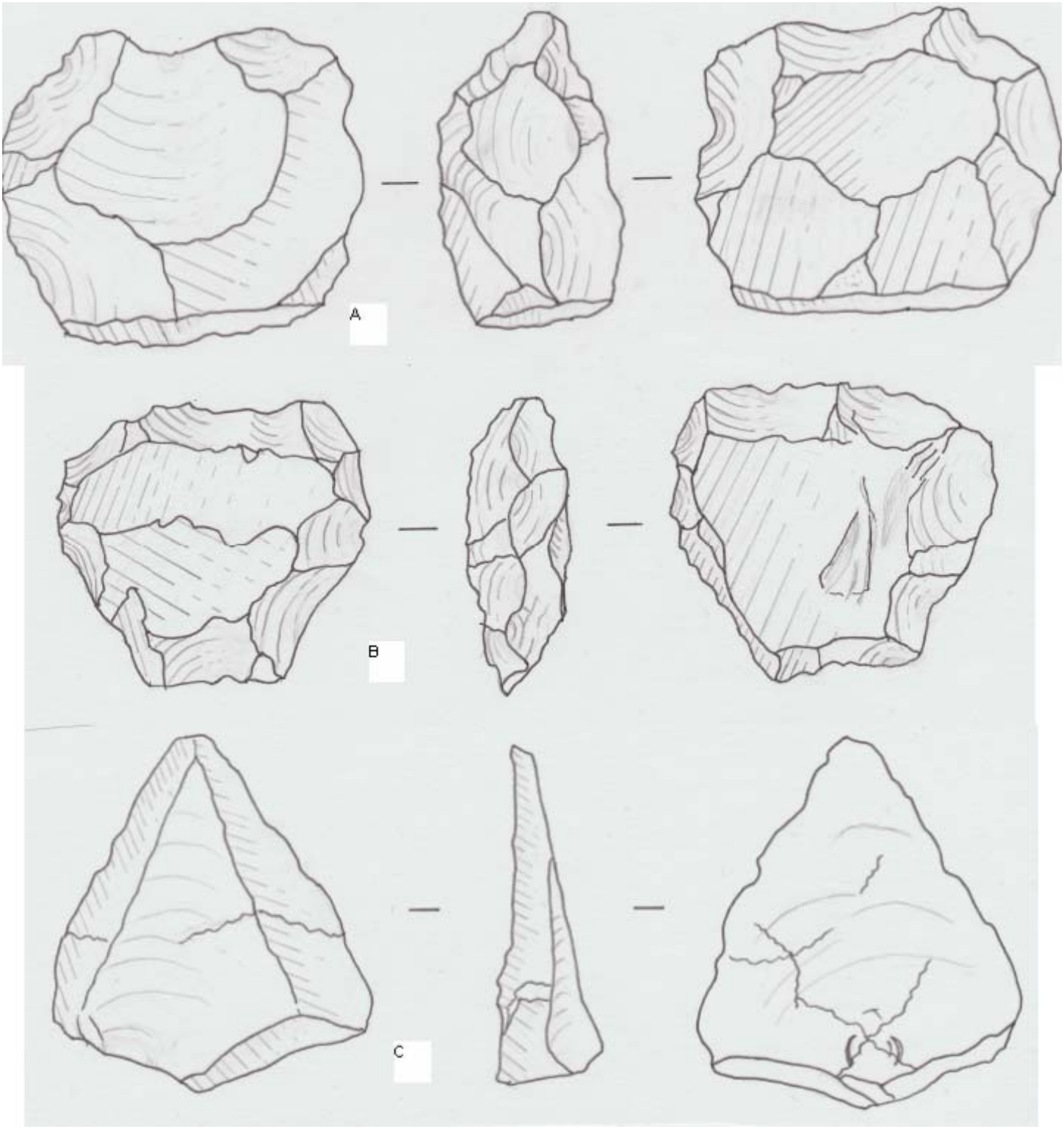

Figure 32: Live size drawings of lithic artefacts from Peers Cave, Jolly excavation J8-11 all levels. The artefacts were drawn through a glass plate placed right on top of the artefact. The millimetre distance between the glass and artefact might have caused small alterations in the original size. Exact measurements can be found in Appendix 1. A) is artefact nr. 212 Levallois core. B) is artefact nr. 280 Opposite platform core or scraper. C) is nr. 270 Triangular point.

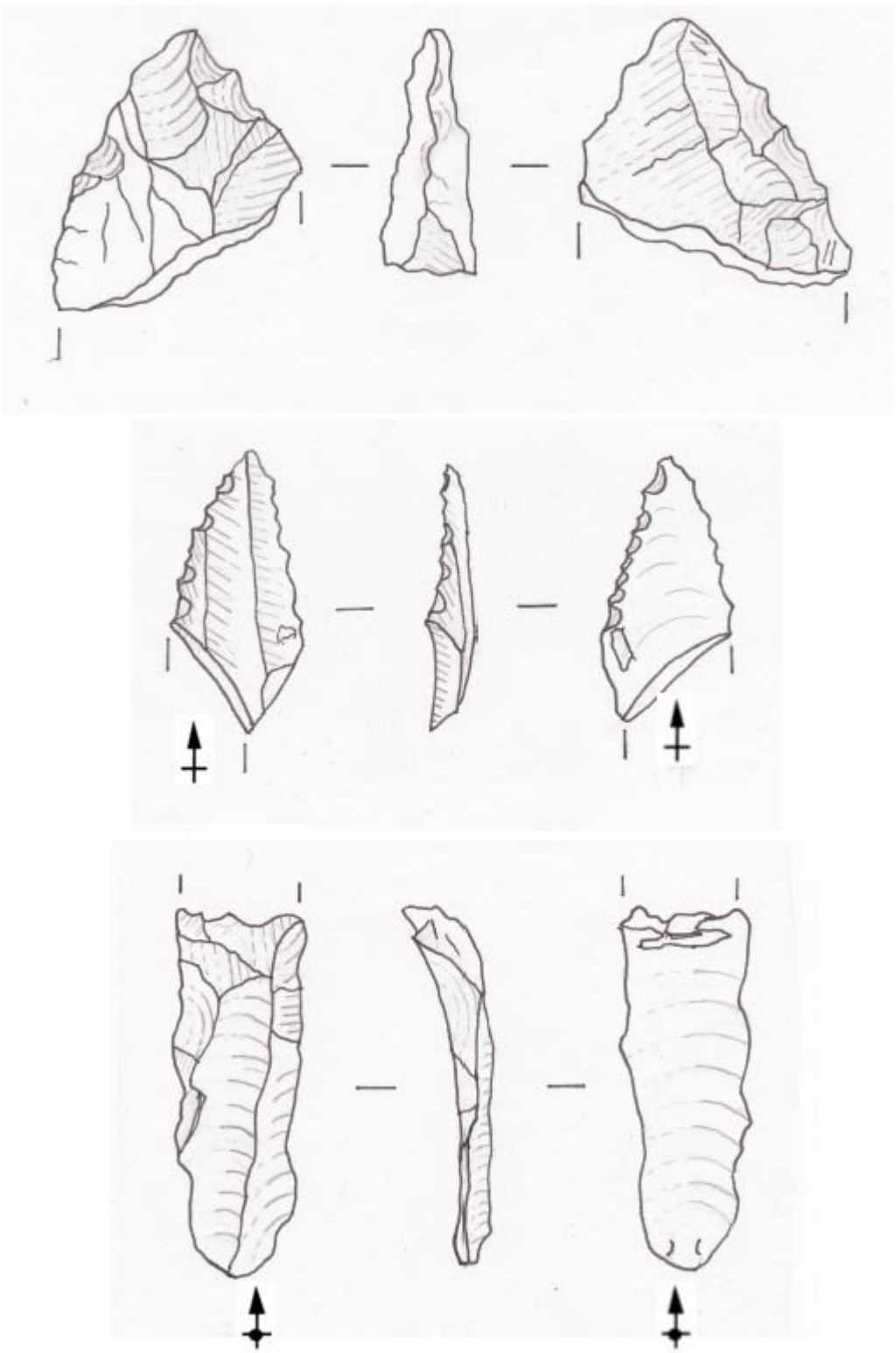

Figure 33: Live size drawings of lithic artefacts from Peers Cave, Jolly excavation J8-11 all levels. A) is nr. 361 Broken bifacial point B) is nr 175 Broken retouched point. C) is nr. 336 Broken blade, hinge fracture.

3.2.3 Summary

As for the rest of the collection, there are only one additional broken bifacial, so the total number of bifacial points in this assemblage amounts to only two. The one studied in the sample derived from J11 up to 64'', while the other one E2,3,4 and F4,5 12-14'' Fallen rocks. None showed any diagnostic impact fractures. There was also one possible bifacial reject (initial stages of production) in a semi coarse quartzite J8 54-64 or 54-62'' One bifacially worked scraper was also found with a note: *Probably F-36'' Howiesons Poort below midden – Yates.* A few pieces of ochre, some with striation marks from grinding were found, marked with column C 50-53''. It is hard to say anything about the sequence of layers in this collection as well as the Peers collection. The markings of levels are vague, and the sample of diagnostic pieces is too small. The Howiesons Poort scraper could indicate that the Still Bay artefacts should have derived from a level grater than 36'' according to Jollys (1948) descriptions of lithic sequences, but then again one of the bifacial points derived from 12-14'' and it is impossible to make any certain assessments regarding artefact types associated with the Still Bay points. There is but one factor worth mentioning, that is the lack of cores and debitage in non-local material similar to the Peers collection. This indicates that large manuports were probably not brought to the cave site, at least not in any great scale.

3.3 Lithic analysis, Barbara Anthony excavation 1963

The lithic collection from the Anthony excavation is considerably larger than the Peers and Jolly collections, even the two put together. As I had limited time to study the material at the museum, I had to choose a sample from this material and was not able to go trough the entire collection. The collection holds a better value for a refitting analysis than the rest of the Peers Cave collections, while this material is sorted, marked and, most importantly, seems to be all there. Unfortunately, this lithic assemblage is not as Anthony (1963) termed it; Still Bay material. The term Still Bay was loosely used by the Peers'(1927, 1929), as they termed all the lower levels as being from the Still Bay period except for the supposedly ESA implements reached in the deepest deposits from the Talus trench. This terminology probably caused Anthony to assume that what she was digging was no doubt Still Bay material. Also not knowing that she had misinterpreted the area of the Peers and Jolly excavations, and in fact dug in the prior excavated areas did not help the matter. A lithic analysis of this material will therefore be useless regarding the Still Bay research questions, but raises a whole list of other questions concerning Peers Cave and the presence of earlier material cultures. What exactly was this material excavated by Anthony? Volman (1981: 173) suggested that

Anthony's two layers (table 6) from trench 2 could be two successive stages of an early MSA industry, possibly dating to oxygen isotope stage 6, (195-128.000 ya (Volman 1984: 171)) and therefore also being a transitional stage between ESA and MSA. This was however one year before Singer and Wymer (1982) had published the finds from Klasies River, and the new knowledge of the MSA lithic sequences. Volman's (1984: 199-203) later interpretation of the Peers Cave early MSA material was in 1984 termed MSA1, earlier and different than anything from the Klasies River-model. With no valid dates of the Anthony material, and only knowing that it underlies the Still Bay, it would be hard to identify the material purely on typological or technological factors. As mentioned before, the South African MSA material lack typological and technological markers (with the exceptions of Still Bay and Howiesons Poort sub-stages) (Avrey et al. 1997: 277). Another problem I have found, is that Anthony's material also contains blasted rock pieces, and there is a possibility that at least the upper levels dug by Anthony was infillings or back-dirt left by the Peers'.

3.3.1 Lithic study of the collection content

The sample chosen for the lithic analysis was Anthony's trench 2, A2, all levels. This sample was chosen for two reasons, first, this square meter was (according to Anthony) situated furthest away from the Peers and Jolly excavations (figure 10). Second, a look through some of the collection I found a somewhat larger frequency of end-products from this square (A2). The artefacts were then marked with a colour tape coding the different levels and in addition a photographic database was made as a backup, in case some of the markings would come off. The 4125 artefacts was then studied and put into a database (appendix 2), measurements were taken of the formal tools, pointed flakes/flake-blades, blades and cores. All the artefacts were sorted after the criteria; levels, squares, raw material, type, presence of retouch and breakage.

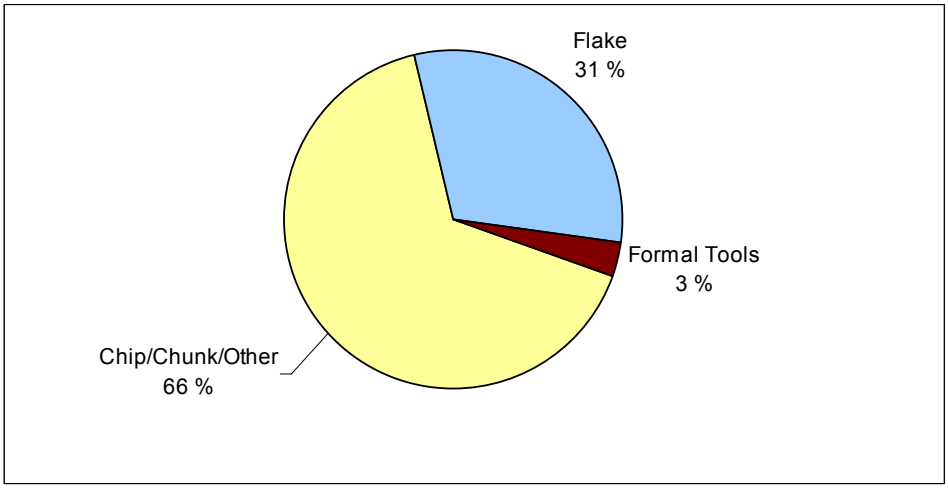

Table 11: Allotment of the lithic collection from Peers Cave, the Anthony excavation, trench 2, square A2, all levels. Pointed flakes, cores and blades are included in the category of formal tools.

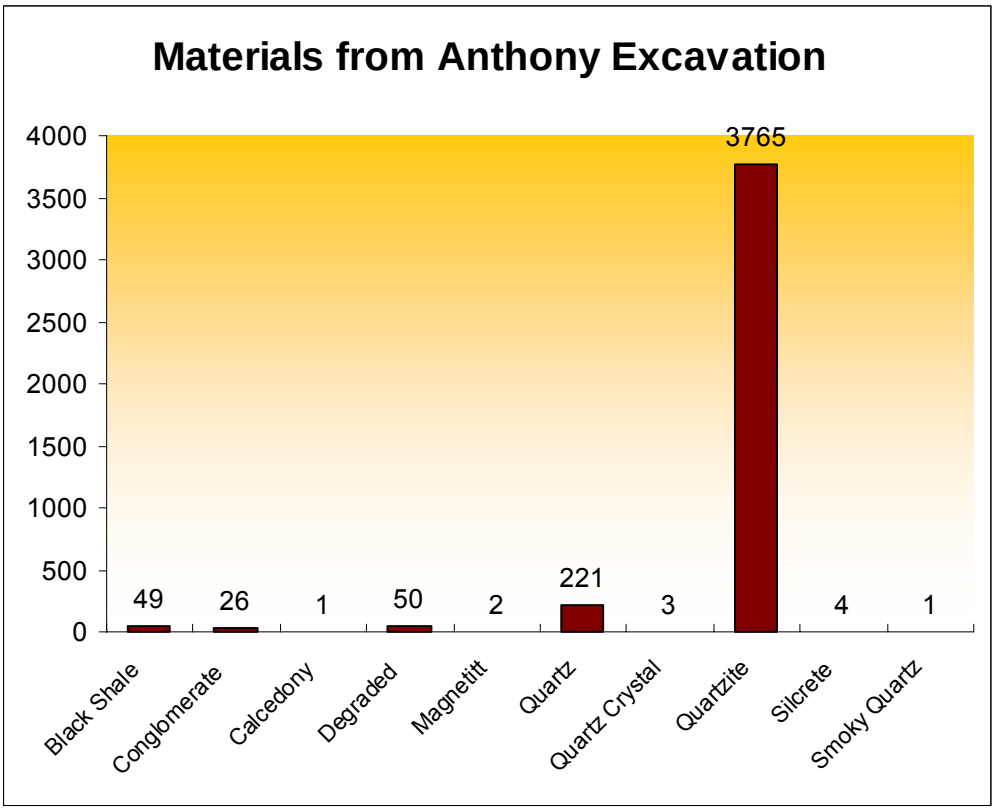

Table 12: Raw materials from Peers Cave, the Anthony excavation, trench 2, square A2, all levels.

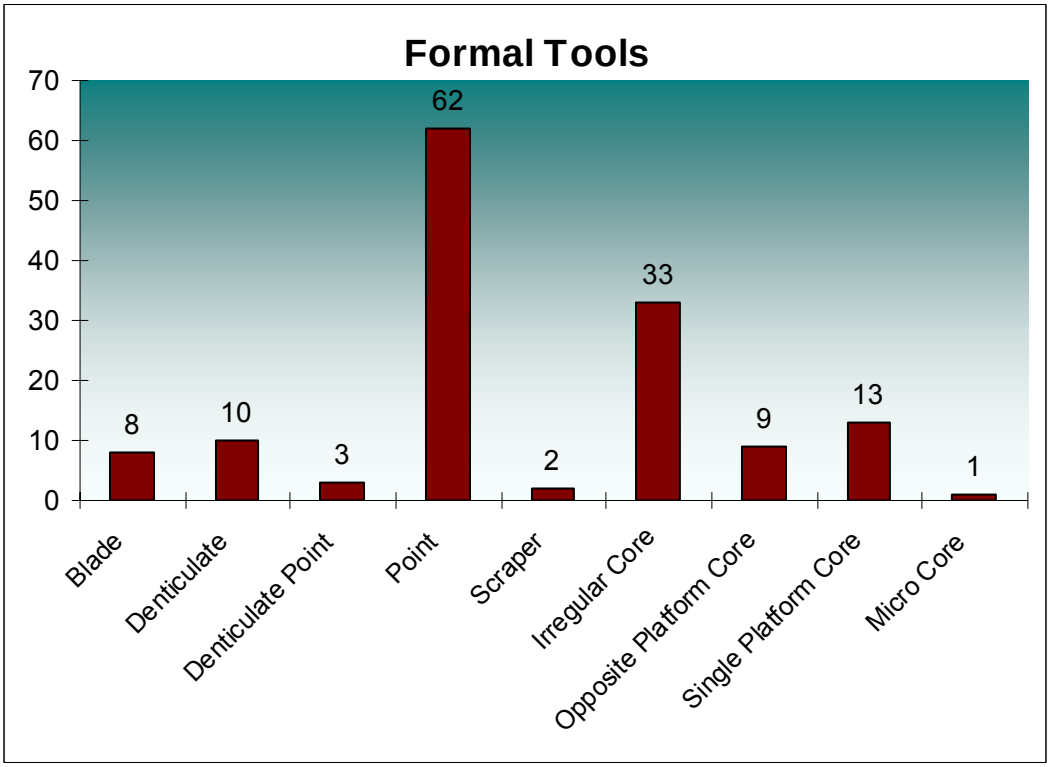

Table 13: Formal tools from Peers Cave, the Anthony excavation, trench 2, square A2, all levels. Pointed flakes, cores and blades are included in the category of formal tools.

What Volman (1981: 173-174) found while studying the Anthony collection was a strikingly low frequency of formal retouch in the entire collection. Low utilisation of fine grained raw materials, and the presence of heavy-duty pieces with crude alternating retouch around part or most of their margins which he was not able to compare to other MSA assemblages. He also found that the upper and lower sample of Anthony's trench 2 was almost identical in artefacts types and even in the size of the flakes.

I have come to some similar conclusions regarding the content of square A2. From the tables 11, 12 and 13 it is evident that utilisation of fine grained raw material was rare, and that only 3% of the content was formal tools including cores, blades and pointed flakes/flake-blades. Of the 151 artefacts in the formal tools category, only 17 is by definition formal tools, 2 retouched points, 2 scrapers, 3 denticulate points and 10 denticulates, the rest consisted of cores (mostly irregular), pointed flake/flake-blades and blades. Only 0.6% of the artefacts from the total sample inhabit retouch (25 pieces), of these only 5 pieces display formal retouch of one or more lateral edges, while the remaining 20 pieces consists of informal retouch, notching and denticulation. The presence of retouch only exists in the upper sample, from 0-42'', whereas there is no examples of retouch in the (smaller) lower sample from 46-50''. There is also a mentionable difference in the few rare examples of fine grained or non-local material, where silcrete, colourful fine grained quartzite and shale only occurs in the upper sample 0- 46'', most frequent in the upper most levels and declining in the deeper levels. Local quartzite and a few pieces of quartz constitute the whole lower sample 46-50''. As for Volman's (1984: 202) MSA1 heavy-duty pieces, described as slabs with heavy-duty/crude bifacial retouch. I find that some of the pieces can be seen as balancing between two different categories; retouched artefact and core. I have however found the latter category more convincing, by the frequency of similar irregular-, opposite platform and initial cores, with few small removals (figure 36B, C).

3.3.2 Refitting Analysis

The sample (Trench 2, square A2, all levels) was sorted into groups of raw material; quartzite, quartz, degraded and other. The artefacts were then sorted after grain size and colour variations. The 8 different groups of raw material was studied one by one, first cores were sorted after size within a group then chip/chunks/blanks, flakes and end products was sorted after size. Every core was tried against every single chip/chunk/blank, flake and end product in the same group to make refits (figure 34).

Figure 34: Refitting process group 5 dark grey quartzite. Peers Cave, Anthony excavation, trench 2, square A2, all levels.

Group 1. quartz; consisted of mostly small chips and a few flakes (small ones). There were no clear cores, only a few pieces with one or two small removals. Quartz is a difficult material to refit, while it is even hard to se the diagnostic signs from human intervention. I was only able to find two refits, and they were not informative. Two pieces of a natural quartz crystal (both pieces from same level) and two pieces of a cobble, also from the same levels.

Group 2. degraded; The degraded material appears all over the levels, from 0-2'' to 40-42''. The group consist of mostly large flakes, some with numerous dorsal scars, nicely made flakes. All the degraded material seems struck, except for three pieces. No refits however, and no cores. Two of the nice flakes might be silcrete, but hard to tell, (both from 40-42'') the rest seems more coarse and probably quartzite.

Group 3. light grey/beige Quartzite; Local quartzite. This group is one of the largest, with numerous cores and flakes, chips and chunks. It was necessary to divide into smaller groups, all from gain size to colour. All the pieces of the "puzzle" seems to be present, numerous cores, and all the different sized flakes, but for some reason they simply don't fit together.

Group 4. medium grey Quartzite: Same local quartzite and the same problem as group 3, cores and flakes are all present but no refits. The group mostly consist of irregular flakes, chips and chunks, only irregular cores with a couple removals. There are almost no diagnostic pieces or tools in this group. Some might resemble a point or two, but very crude and no retouch.

Group 5. dark grey Quartzite; Similar to group 3 and 4, irregular cores and flakes, but no refits. **Nr 3536** (artefact nr, appendix 2) can resemble an ESA chopper in shape, from 38-40''. There are small flake removals that form an edge, however I have interpret this, as it is more likely to be, an irregular core with few removals. There are no other ESA implements in the collection, and irregular cores with few removals on the other hand are very common. There are also a couple of large flake-blades comparable with the material from Die Kelders (Avery et al. 1997: 275). But the examples deriver from very different levels **nr 380** (12-16'')(figure 39), **nr 3533** (38-40''), and **nr 1627** (20-22'').

Group 6. brownish grey Quartzite; Also the local quartzite, and the content is similar to group 3-5, still no refits. There are some examples of more finely grained brown quartzite. A denticulate flake **nr 2364** (figure 38D) and a denticulate Point **nr 7** seems to be from the same block of material, they both have the same grain size and both a grey and brown colour, but from very different layers, the flake from 24-26'' and the point 0-2''. This could be an indication of disturbance or steep layers. One point, **nr 3473** (pointed flake) in fine grained quartzite shows a secondary removal at the proximal end, this could possibly be a thinning removal for hafting (figure 38A). Some of the few cores in the collection with signs of platform preparation, have small chip removals. Howeve, only a few small flake removals (1-3) are utilized before the core is abandoned/discarded. This is evident on many of the opposite platform cores too, the small opposite removals make a wavy edge. Perhaps they wanted this edge, and that the core is the end-product, or they highly utilized the small irregular shaped flakes for something. 2 scrapers (**nr 95** and **2347)** are found in this group, clearly worked, seemingly small in size and not diagnostic in shape. Also in the more finely grained (shiny) quartzite (figure 38C).

Group 7. brownish red quartzite; consisted of some medium sized flakes, chunks, small flakes, and one opposite platform core **nr 15** (figure 36C) This group derived from the layers 0-2'' and up to 30-32'' in this seemingly distinct material, and was perfect for a refitting analysis. The size of some of the flakes was the same size as the last negative flake-scars on the core, however, despite several attempts none of the flakes would fit on to the core. The variety of levels could indicate disturbance or movement in layers, the same observation is made in a different group (8), fine grained beige quartzite with red lines that deriver from the various levels between 0-2'' up to 30-32''.

Group 8. all other material (fine grained and colourful quartzite, silcrete, conglomerate/ very coarse silcrete and different types of shale). The finely grained material is not particular common in this collection, compared to the local coarse quartzite. There is a

much larger frequency of end products and formal tools in the fine grained materials than is represented in the other groups. So the MSA people probably utilised the fine grained material to the fullest, when they first had access to it. The group consists mostly of flakes, pointed flakes/flake-blades, denticulates and triangular points. There are also a few blades and retouched points, the blades are somewhat thick in this collection and most inhabit only one dorsal ridge. I was not able to find any clear (three or more removals) cores in the fine grained/non-local material. Four refits were made, one of a large broken flake, it could be a fresh break, in any case the break is most likely not caused by knapping. One broken denticulate blade, that was thin and fragile, and most probably a fresh break. Two pieces of the same chunk was also refitted, however the piece showed no signs of being struck (figure 35). One last refit of a broken blade was made, it had a faded patina outside and a bright red colour inside the break that would indicate that also this was a fresh break, from level 26-28''. All the refitted pieces derived from the same levels. Artefact **nr 387** from 14-16''

Figure 35: Three refits from Peers Cave, Anthony collection, Trench 2, square A2, all levels.

(figure 38B) was an unusual find, a point with only inverse retouch (from dorsal to ventral surface) of both lateral edges, the point also inhabits a double bulb, and could indicate a production error, were the purposed removal did not come off as planned and was therefore struck twice. The few pieces of the very distinctive material conglomerate derived from the various levels 18-20'' and up to 24-26'', and could also indicate disturbance. Of all the black shale, only one piece shows small signs of being struck, two small notch removals on a

broken piece. The rest seems to be natural breaks and formations. Two small pieces of Magnetitt (crystallized ochre) was found, however no signs of striation marks or of being struck. Both from the same layer 12-14''. One small piece of chalcedony was accounted for, but hard to tell if it was at all struck, could resemble a flake, but no clear diagnostic markers for human intervention, from the level 32-34''.

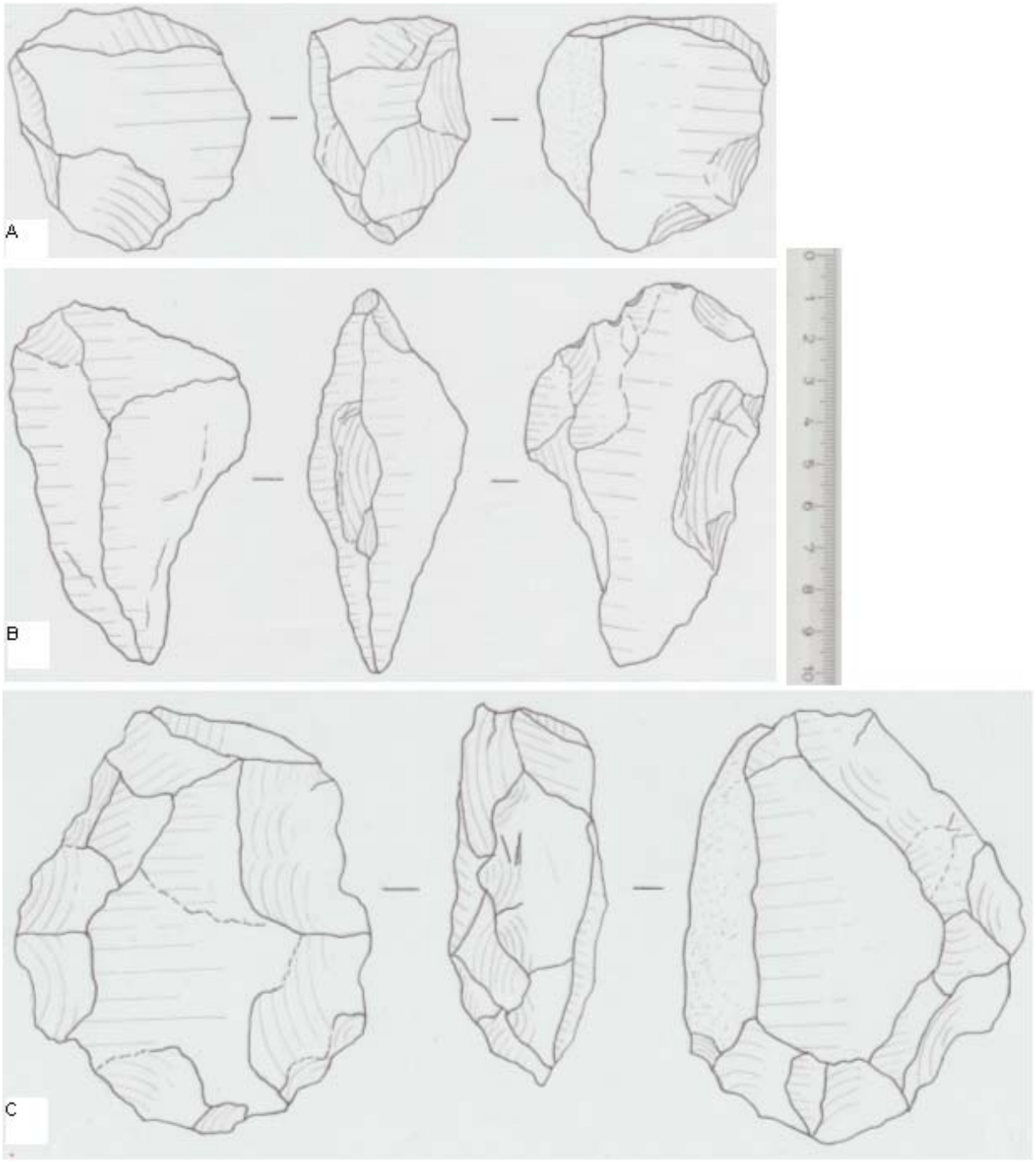

Figure 36: Drawings of cores from the Anthony collection, trench 2, A2, all levels. A) Aretfact nr: 3970 common irregular core. B) artefact nr 3934and C) artefact nr. 15 Opposite platform cores. Scale in cm**.**

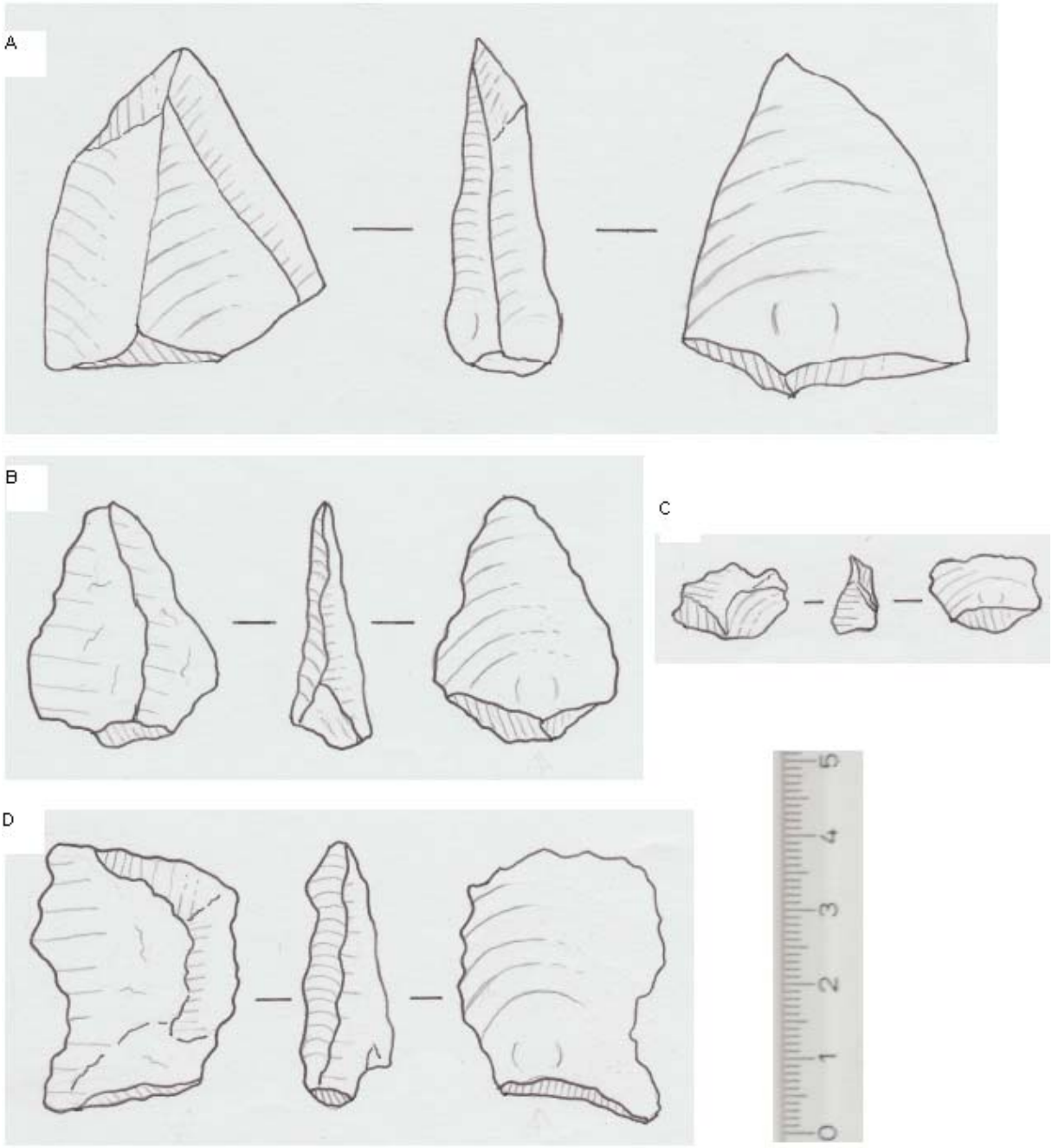

Figure 37: Drawings of common artefacts from the Anthony collection, trench 2, A2, all levels.. All in common coarse quartzite. A) nr.83 Triangular point (fairly common). B) nr 2417 Pointed flake C) nr 3915 small flake/chip D) nr 705 Irregular shaped flake. Scale in cm. All the artefacts from the Anthony collection was drawn through a glass plate , originally in live size, the small distance between the glass plate and the artefact could have caused small alterations in size, formal measurements of the artefacts can therefore be found in appendix 2.

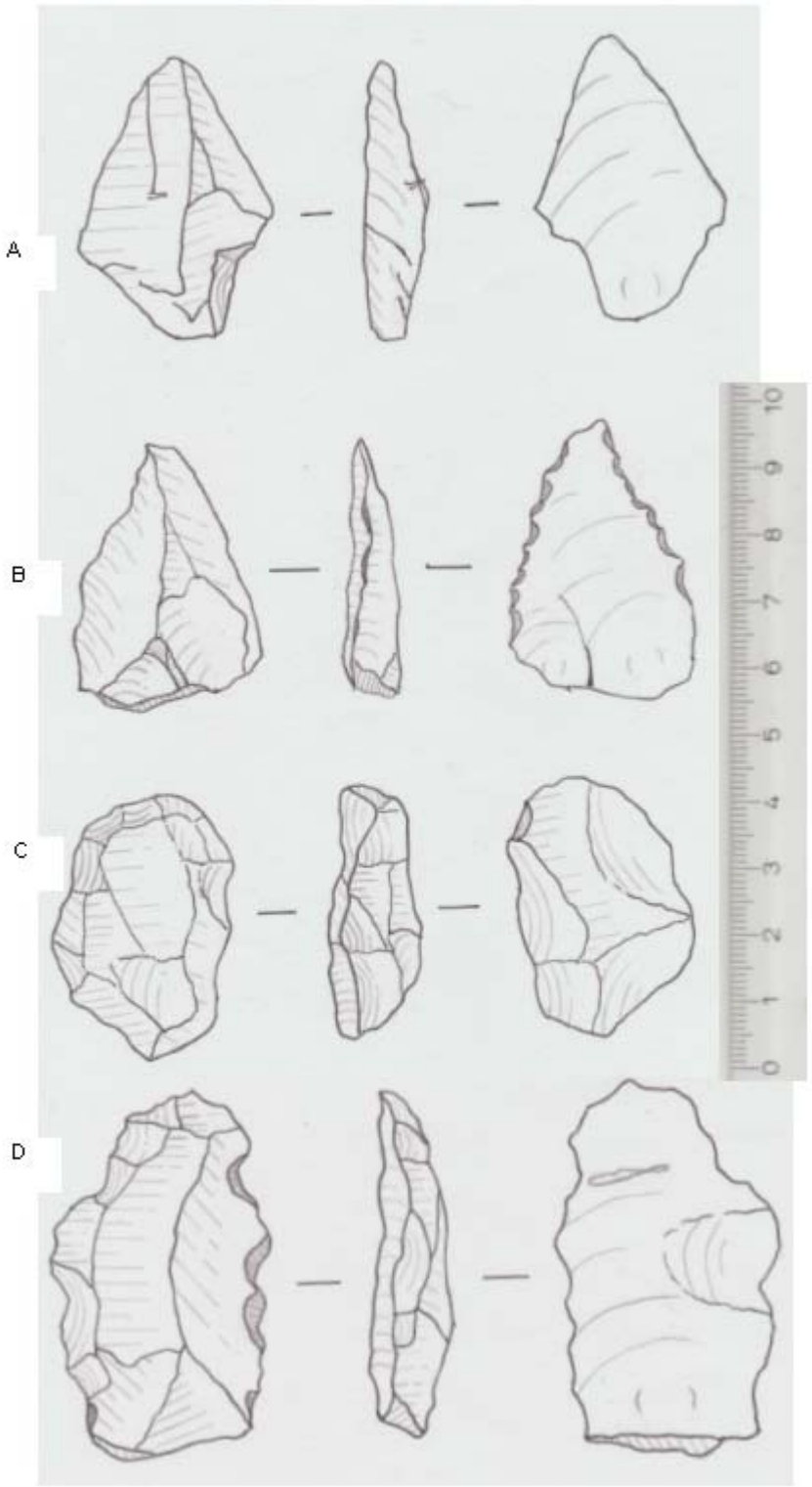

Figure 38: Drawings of rare artefacts in the Anthony collection, trench 2, A2, all levels. All in fine grained quartzite. A) nr 3473 Pointed flake with a secondary removal on the proximal end B) nr 387 Point with inverse retouch on both lateral edges. C) nr 2347 rounded retouched end scraper. D) nr 2364 Denticulate with a flake scar on the ventral surface. Scale in cm.

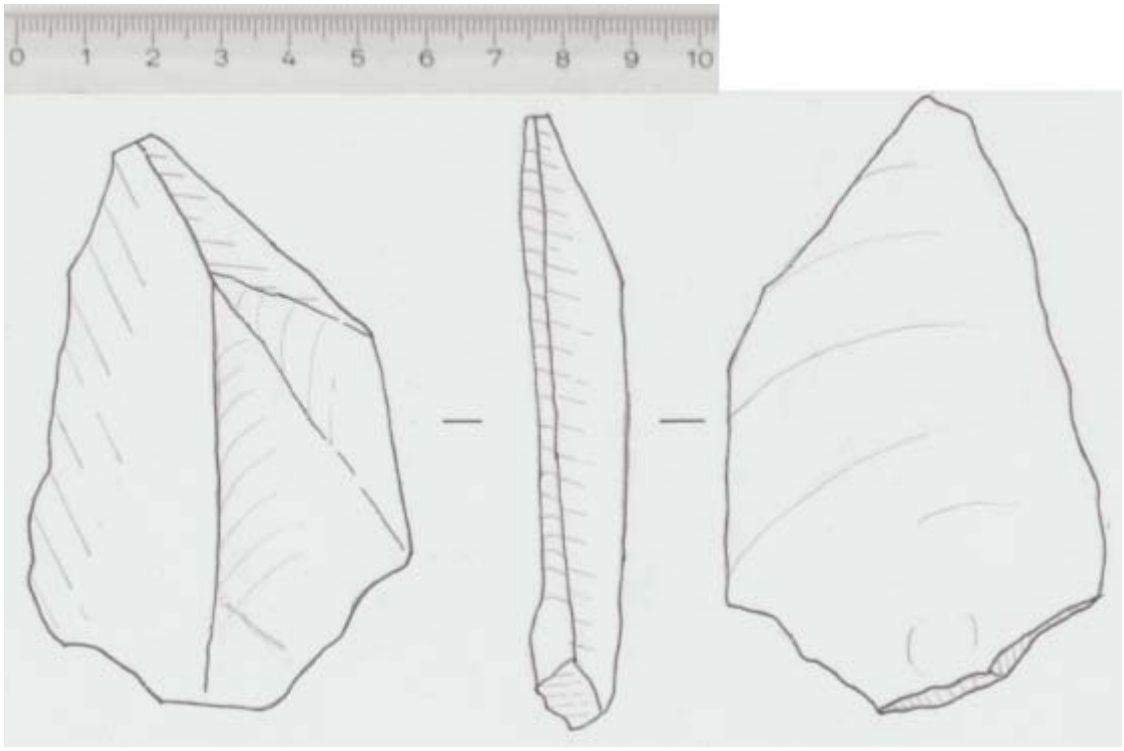

Figure 39: Drawing of artefact nr 380, large pointed flake in a semi-coarse quartzite. Rare find in the Anthony collection, trench 2, A2, all levels. Scale in cm.

One important discovery that was made while studying the Anthony collection, was the blasted rock pieces. Primary blasted rock (from the rock that was blasted) has a very distinct character, and can easily be recognized (figure 40). The rock looks more like it is laser-cut in exact strait lines, it is sharp and can not be confused with any natural form of breaking/ crushing (personal communication Petter Nielsen, 21 Feb. 2008). Secondary blasted rock is however more difficult to determine, and could look more like natural roofspall. There is a lot of roofspall through most of the levels, some of these chunks have parts of a smooth surface, while the rest of the piece looks battered. These pieces could potentially be parts of the cave roof and walls, caused by secondary crushing from the blasting. However, and more important, is the primary blasted pieces that occur roughly through all the upper levels and as far down as 30''. How did these pieces get there? The larger blasted rock pieces (over 10cm) would hardly have penetrated the fairly compact deposits over 2 meters in depth, during the explosions. Remembering that the explosions took place before even the Still Bay layer were removed, and by Peers' (1929) notes the deposits in layer 3 (Still Bay) was so compact that they had to use picks to get trough it. This could mean that the upper levels dug by Anthony, was not even were Peers and Jolly had left off, but infillings and back dirt from the two prior excavations. This interpretation also fit in with the results from the refitting analysis, with no refits and several indications of disturbance trough the layers 0-30'' in depth.

Figure 40: examples of primary blasted rocks from Peers Cave, Anthony excavation, trench 2, A2, all levels.

3.3.3 Summary

Raw material: The material that was utilised was mainly the local quartzite, easily assessable around the cave site. This quartzite is relatively poor in quality and coarse, and varies in colour from light pinkish grey to darker grey and brownish grey. One thing is clear if they first had finer material they made use of it, almost all the formal tools in this assemblage is in fine grained material (excluding some of the pointed flakes/flake-blades and cores). The lack of cores and debris in the non-local material also indicates that the pieces were worked before they got to the site. There is also a distinction between Anthony's upper sample 0-46'' and the lower sample 46-50''. There are no fine grained materials in the lower sample, only local quartzite and a few examples of quartz. The fine grained materials are also most frequent in the upper most levels in the upper sample and declines in the lower levels.

Cores: The most common cores are the irregular cores, followed by single platform cores and a few opposite platform cores. There are also many chunks with only one or two removals (initial cores), suggesting that the MSA people were testing the material, and the core was disposed off after it was struck once or twice. Most of the cores show small flake or chip removals, and some of these have been interpreted by Volman (1984: 199) as being retouched tools. I have only found two examples that could resemble Volmans heavy-duty pieces, from the levels 40-44'', but these have for now been put in the database as cores. The total lack of handaxes and choppers, along with the extraordinary low frequency of retouch in the assemblage could suggest that these pieces were cores or initial cores, and that the end-product were in fact the irregular sized flakes and small chips. On the other hand, I am not excluding the possibility that some of these might have been artefacts with a worked edge, the example in figure 36B for instance show notching or edge damage at one part and the shape could resemble a handheld artefact.

End products: The most frequent end-products are the irregular flakes, relatively small in size 2-5 cm in length. There are also a few examples of large flakes (comparable to Die Kelders), but these are rare finds in the assemblage. Other end-products are pointed flakes, triangular points, denticulate flakes and points that would be comparable to the Mossel Bay sub-stage. Blades and formally retouched pieces are extremely rare, but do occur in the assemblage. There is a clear difference between the upper and lower sample here, the only end-products present in the lower sample are flakes, chips and chunks, no formal tools.

Disturbance: I was not able to find any refits in this sample, except for a couple of breaks that could have occurred during storing and moving of the assemblage. The area of the sample covers one square meter, which should be acceptable. This result could indicate that the production of artefacts was conducted elsewhere, but it is more likely due to disturbance. All the pieces of the "puzzle" are present, except they don't fit together. Similarities in distinctive types of raw material suggest that there have been movements in the layers. And the fact that pieces of blasted rocks occur to a depth of 30'' also support the interpretation that the upper and middle levels from this sample have been exposed to some sort of disturbance.

The artefacts from the Anthony collection are typological and technological similar to the artefacts from both Peers' and Jolly's lower levels (beneath the Still Bay) containing denticulates, triangular points and irregular cores. Anthonys upper levels might resemble the Mossel Bay artefacts and back dirt/infillings from the prior excavations or might be something entirely different like Volmans MSA1. This matter will be further addressed in chapter 4.

Chapter 4: Discussion and Conclusions

4.1 The early discoveries at Peers Cave, fact or fiction?

Were Victor and Bertie Peers' world fame deserved, or was the truth of the finds altered and the mistakes covered up? As I have studied the history of the early excavations, I have found it peculiar that the contrast is so great between the early descriptions of the site and the more resent ones. From being a remarkable cave site and an important discovery with promising future prospects (Jager et al 1941: 1), to a forgotten cave with no publications, and the remaining collections scientific value is seen as so low that it has been written off as a lost case (Deacon & Wilson 1999: 4). The two counterparts have resulted in Peers Cave being a mystery site, and the descriptions of the finds have been questioned.

From the lithic analysis of the whole Peers Cave collection I have been able to verify the presence of the early described lithic sequences, however not nearly as plentiful as the records suggests. Nevertheless, this lack can be explained by the fact that parts of the Peers Cave collection have ended up in other museums and most likely also in private collections.

As for the method of excavation, I have found indications that the truth has been somewhat bended in the favor of the excavators, and the mistakes covered up. The inconsistent valuation of the Peers' work is most evident in the four published guides to Peers Cave, which were actually written in the memory of the late Victor and Bertie Peers. *"South Africa owes a great deal to the amateur archaeologists. No more splendid example of our debt to him could be found than in the scientifically valuable and spectacular results of the work of Mr. Victor Peers and his son Mr. Bertie Peers in the Skildergat – now rightly rechristened "The Peers Cave"* (Jager et al. 1949: 14). In the same section as this praise of the work carried out by the Peers, a contradicting statement is made; a warning is issued not to follow in the Peers' footsteps. That it is prohibited to undertake excavations in any cave, rock shelter or open plain site, or remove any form of relics and/or paintings from the past without a written consent of the Historical Monuments Commission. The poor sampling, storing and documentation of the finds, and the mistakes made during excavation caused grave losses of information, earlier mentioned in chapter 2, and this was most likely known by these scientists. Still they referred to the work carried out by the Peers' as professional, and not to forget all the other sites that were disturbed in the Fish Hoek Valley where the Peers' "practiced" their excavation methods.

Sir Arthur Kieth, at that time professor in anthropology, undertook a study of Fish Hoek Man, and found that the presumed great antiquity of this skeleton nr 4 could be questioned. According to the Peers' original notes, the sections and depth of the layers could have been misinterpreted (Mossop 1943). This disappointment could very well have been the beginning of the declining interest in Peers Cave. The Still Bay point that was portrayed as being buried with Fish Hoek Man (Jager et al. 1949: 13), is a presumption and not a fact. From Peers' excavation record it is clearly stated that; *"…No implements were actually found with the bones, but a fine lance-head seemed to have been included in the immediately superjacent earth."*(Peers 1929: 3).

4.2 Peers Cave and the lithic sequence

LSA: In the written records from the Peers'(1927, 1929) and Jolly (1948), a Wilton industry is described as the top layer, containing single and double segments, thumbnail scrapers and other microliths. From the Peers' record these are associated with the eight burials, ochre, beads, bone points, grinding stones, iron and the shell-midden. Jolly however describes the midden as being a separate layer underlying the Wilton stone tools containing pottery and ochre. My analysis of the whole Peers Cave lithic collection could not provide any further information regarding this problem, except from verifying the presence of all the mentioned artefacts, but not in the numerous amounts described by the excavators.

MSA: In Volman's (1984: 199) scheme of MSA industrial sequences, Peers Cave is listed with several possibilities. Staring at the top with a possible Post-Howiesons Port (MSA3) industry followed by Howiesons Poort and Still Bay (in an undefined order) Then a possible Mossel Bay or Klasies River (MSA2) phase followed by MSA1 and last a possible Upper Acheulean phase.

If there is Post-Howiesons Poort material in the collection is difficult to determine, the material lacks typological and technological markers. Even Volman (1984: 207) himself emphasized that the assemblages he grouped together as MSA 3 share little in common, other than their presumed or definite Post-Howieson's Poort age. It would therefore be mere speculation to assume the presence or absence of this sub-stage at Peers Cave, only based on a study of the poorly marked and sorted lithic assemblage. Peers' (1929) upper Still Bay layer "the coarse Still Bay" was according to the notes overlying the Howiesons Poort layer, and have later been interpreted as Post-Howiesons Poort material by Royden Yates (Minichillo 2005: 106). However Jolly describes the Howiesons Poort directly underlying the Wilton material (except for where it is separated by midden refuse) and the Still Bay directly

underlying the Howiesons Poort. A similar assumption was made even earlier by Sir Arthur Kieth and his study of Fish Hoek Man (Mossop 1943), and reexamined by Ernest Mossop in 1943. An analysis of the report shows that the text Peers wrote does not agree with his diagram in regards of the position of the Howiesons Poort layer. The evidence shows that layer IV (Howiesons Poort) should be placed further east in his plan, and therefore according to the depth reached is lying in the upper most stratum of layer III (Still Bay) and not integrated in the middle. I do find the latter explanation more convincing, rather than assuming that the "coarse Still Bay" is Post-Howiesons Poort material. Either way, this would mean that the Still Bay most probably underlay the Howiesons Poort at Peers Cave, correlating with the more resent dating of the two sub-stages.

As for the lower levels at Peers Cave and a possible MSA2 phase (Klasies River and Mossel Bay), the material in the collection from the deepest levels of the Peers' and Jolly assemblages and the upper levels of the Anthony assemblage are comparable to the Mossel Bay phase from the Klasies River-model (though Anthony's upper levels might be disturbed and mixed with back-dirt/infillings of blasted rock pieces and roofspall). However, by the complete lack of blade cores, platform preparation and only a scarce representation of blades, the Peers Cave collection does not suggest a Klasies River phase from this site. Another phase that can be excluded is Henshilwoods (2005) "yet to be described phase" the M3 levels at Blombos Cave, there are no associated ocher or pigment in the levels underlying the Still Bay from Peers Cave, except for some extremely rare examples of black shale. And the preferred material was definitely not silcrete, another point is the lack of platform preparation and exhausted cores. The two sites share little in common in regards of the pre-Still Bay industries, except for the fact that both technologies were for the production of flakes, rather than flake-blades.

What Volman (1984: 201) defines as MSA1 in the Peers Cave lithic sequence, is to me somewhat unclear. If he refers to all the pre-Still Bay levels (except for the deepest depths reached in the talus trench) or only Anthony's lower sample are not clearly explained. Volman also mentions that the purposed MSA1 is the most problematic MSA phase, but seem to exist in the Southern Cape, only defined by the extremely low frequency of formal retouch, absence of retouched points and the presence of heavy-duty pieces (slaps with bifacial retouch). However, Volman (1984: 201) only found one other specimen that were comparable to the heavy-duty pieces found at Peers Cave, from the site Elands Bay, and admits that the topic of a possible MSA1 phase in the Southern Cape needs revising. Altogether the argument for an existing MSA1 phase is thin and poorly documented. Another

problem is Volman's assumption that these pieces are in fact retouched artifacts and not cores, which, by no means, is a proven fact. Even ESA artifacts are often described in the literature as "tool-core", "core/scraper", "axe-core" "chopper/core" because the intended purpose of the artifact is unknown (Braham & Mitchell 2008: 118,119,132). Anthony's lower levels differs somewhat from the upper levels, and by my impression only the material in the lower sample represent what possibly could be termed MSA1. From the analysis of trench 2 square A2, the only raw material used in this level was local quartzite and quartz. There was no retouch and no formal tools only flakes, irregular cores and two artifacts that could be defined as cores as well as retouched/worked artifacts.

ESA: If there is ESA deposits at Peers Cave is uncertain. Trench 1 from the Anthony excavation was not studied and the supposed ESA implements from the deepest depths reached in the Peers' talus trench was not found in the collection, except for a couple of possible cleavers/choppers and handaxes that was marked with "uncertain origin" and some marked with "Peers Kendrew?".

Peers Cave lithic sequence could by my interpretations be summarised as, starting at the top; LSA – Wilton, MSA – Howiesons Poort, Still Bay, possible Mossel Bay or MSA1 (or both) and last a possible ESA phase.

4.3 The Still Bay complex and Peers Cave

Volman (1981: 170) did make a statement in 1981 that the existence of a Still Bay industry at Peers Cave could not be demonstrated on the basis of the exciting reports and materials from the site. With the more resent knowledge of this sub-stage from the excavated sites Hollow Rock Shelter and Blombos Cave (amongst others), this statement can be challenged. I argue that on the basis of this lithic study of the whole Peers Cave collection, typological, technological and stratigaphical evidence suggests otherwise. The bifacial points from the lithic collection in the Iziko South African Museum and the displayed material in Fish Hoek Valley Museum can definitely be termed Still Bay material from today's criteria of classification. On the other hand I will also point out the earlier mentioned weakness in the loose classification of this sub-stage. Still Bay is classified only by the presence of numerous bifacial points. Bifacial points have been known to occur in Howiesons Poort and Post-Howiesons Poort assemblages as well, but rather rarely and not in the rich numbers known from Still Bay sites. A distinct type have also been seen as the true/fully Still Bay point, however the assemblages from both Blombos Cave and Hollow Rock Shelter show a large range of various shape and sizes of the points (Evans 1994: 67, Henshilwood et al. 2001: 428-

430). This is also the case for the bifacial points found in the Peers Cave collection, though the laural-leaf and elliptic-leaf shape occur, several other variants are just as common. This means that typological classification alone is somewhat unreliable in demonstrating a Still Bay industry. The stratigaphic evidence from Peers Cave is also week, based only on descriptions from the early excavation and no scientific dates. Nevertheless, associated material like the worked ochre, nassarius beads and worked bone from Blombos Cave and natural quartz crystals from Hollow Rock Shelter can be seen as helpful markers in determining this sub-stage (Henshilwood et al. 2004, Henshilwood 2007,Evans 1994: 69, Minichillo 2005: 154). There is worked ochre associated with the MSA material in the Peers Cave collection, there are also several unmodified quartz crystals in the assemblage, the marking of these artefacts are poor and from which exact layer they originate is uncertain, but for the most cases these artefacts are grouped together with the MSA lithic material. I have not found any nassarius beads in the collection, but these small shells might very well not have been sampled during the early excavations. Worked bone is only found associated with the LSA levels, but as the written records insinuates the bone preservation at the MSA levels have not been good. The Peers' skeleton nr 10, was buried far deeper then any of the other burials and is hardly mentioned in the records, this was because the bones was so decomposed. There were no samples taken and the find was referred to as "totally perished" (Deacon &Wilson 1999: 3).

Nevertheless the most reasonable argument for interpreting the bfacial points from Peers Cave as a Still Bay industry are the technological details that was observed during the lithic study. The technique and the production sequence of the bifacial points are highly comparable to the results from the analysis of the Blombos Cave bifacial points (villa et al. 2009: 445-446). Two different methods are recognized in the initial shaping of the bifacial points; one, creating a suitable large flake/flake-blade by direct hard-hammer percussion. Two, core reduction, flake removals from a cobble, to where a suitable shape has been achieved by direct hard-hammer percussions. The next phase of the production sequence, the more advanced shaping/ bifacial thinning of the points the evidence suggest the use of a soft hammer, and not a pressure-flaking technique. However in a newly published article by Vincent Mourre, Paola Villa and Christopher Henshilwood (2010: 659) the issue of pressure-flaking was readdressed concerning the Still Bay points from Blombos Cave, this time with a different conclusion. That heat-treated silcrete combined with a pressure-flaking technique best described the morphology of the Still Bay bifacial points. The bifacial thinning scares on Still Bay points are not as evenly spaced or sized as the European examples from the Upper

Paleolithic, nevertheless some of the silcrete bifacial points from Peers Cave does show indications of being burnt (figure 31, 33A).

4.3.1 Peers Cave a manufacturing site?

Cave sites containing Still Bay material have often been interpreted as manufacturing sites, a workshop for the bifacial points (Soressi & Henshilwood.2004, Minichillo 2005: 130, Villa et al. 2009). This was also Peers' interpretation of Peers Cave, because of the many rejects, unfinished points and hammer stones. However no refitting analysis have been made in verifying that all the sequences of the production were conducted at the caves. The remaining collection from Peers Cave is greatly flawed and lacking vast amounts of material, it was therefore not suitable for a refitting analysis, tough an attempt was made on a sample from the Jolly collection. Nonetheless the study of the lithic material from the Peers' collection showed a lack of cores and debris in non-local material that most of the bifacial points were made from, which could indicate that the first stages of the production was conducted elsewhere. In other words, that the fine grained silcrete and quartzite was already worked to some degree when brought to the site. This issue surly needs more research and the somewhat unreliable collection from Peers Cave is not the best example contemplating this interpretation.

The initial stage of the production sequence, the testing and selection of raw material, was not addressed in the analysis of the Blombos Cave bifacial points, but an analysis of the Still Bay cores and debitage is a planned event (Villa et al. 2009: 442). As for the later production sequences of the bifacial points, the analysis of the Blombos points suggest that the place of manufacture was the cave site, by the presence of small bifacial thinning flakes, rejects and knapping mistakes. I have not been able to find any bifacial thinning flakes in the Peers Cave collection, however these small artefacts would hardly have been sampled during the early excavations. There are unfinished bifacial points and possible rejects in the assemblage, and together with the fact that a large amount of the bifacials are broken, some possibly due to knapping mistakes, can form an argument for the cave being the place of manufacture at least for the later stages of the production.

4.3.2 The Still Bay points intended use

Bifacially worked points have a long history of being interpreted as projectile points from both American and European examples as well as the South African Still Bay points. They were assumed to be the tip or armature for a spear, dart or arrow mainly because the shape or

form looks like modern-day projectile weaponry, such as archery or lancing equipment (Andrefsky 1998: 191-192). This was however before there excised an objective way of assessing the function of lithic artefacts, such as macro- and micro fractures, microwear /use-wear and residue analysis known today.

The Still Bay points from the site Sibudu Cave in the Eastern Cape, was analyzed by Marlize Lombard (2005b, 2006ab) through a multi-analytical approach, macro fracture analysis combined with use-wear and residue analysis. These methods were purposely chosen to address the issue of function or the intended use of these Still Bay points. However the sample was small and the goal was not to make a generalized interpretation of the Still Bay in South Africa. The results confirmed that some of the Sibudu Cave Still Bay points were hafted to wooden handles or shafts, and that some were used as butchering knifes and implements, while other functioned as hunting weapons (Lombard 2006a).

Minichillo's (2005: 126-133) macro fracture analysis of Still Bay points from various sites in the Cape also resulted in various hafted functions, predominantly as knifes or cutting tools but also spear armatures or projectile armatures. He found that impact fractures were lacking from the cave sites compared to the more open plain sites. The theory of cave sites being workshops for the bifacial points was supported by this result, also that the points from the caves were used as cutting tools rather than hunting tools, whereas the opposite was the case for the more open sites.

The macro fracture analysis of the Blombos Cave points also showed evidence of hafting, however in contrast to Minichillo's interpretation of the cave site bifacial points being cutting tools rather than hunting tools, the Blombos Cave points are predominantly interpreted as hafted spear tips (Villa et al. 2009). Reaching this conclusion the finished Still Bay points was distinguished and separated from the discarded performs and unfinished points. The theory of Blombos Cave being a workshop for the bifacial points was also sustained trough this analysis.

Symbolic functions have also been suggested for the Still Bay points. As well as being a hunting or cutting tool, they could have functioned as symbols in the social realm, and the distinct style could be marking boundaries of linguistic or ethnographic groups (McBrearty 2007:136). This interpretation has been especially relevant concerning the aesthetically pleasing bifacial points with extraordinary size and finish (Marean & Assefa 2005: 116). Even if the thinnest and most fragile points can be used and does function as hunting tools (Villa et al. 2009: 456), a symbolic function can not be excluded. After all, studies have shown that the bifacial points do not have any aerodynamic advantages for being projectile

points (Minichillo 2005: 131), or even sharper or more durable than a point/pointed flake-blade for spear armatures. So why would they go through the trouble of making them, if they didn't have wider meaning? Another argument can be that eight decades of research supports the theory that by typological distinction the Still Bay points are confined to geographical area.

From the lithic study of the Pees collection, observations of macro fractures on the bifacial points were made, and showed that the most common break was the snap/bending fracture of the distal end or middle part of the point. These types of breaks are not diagnostic for impact fractures, but impact is one of several explanations for snap/bending fractures. The evidence from both Sibudu Cave and Blombos Cave showed that several of the Still Bay points were hafted. The snap/bending fracture off the distal end on the Peers Cave bifacials could indicate that they were broken in the haft due to impact, this argument is purely a hypothetical theory, whereas no experimental studies were conducted concerning this issue. However one bifacial point (figure 25A) did show evidence of being hafted and the distal end resharpened, there was a slightly darker patina where the haft had been. The surprising fact was that more than half of the point (almost two thirds) had this patina, and would have been inserted in the haft. This would mean that only the distal tip of the point would have functioned as the business end, correlating well with the breakage patterns. Another argument is that this suggest that the Peers Cave Still Bay points has functioned as spear armatures rather than hafted knifes or cutting tools as suggested by Minichillo, because most of the lateral edges (that would have been the business end of a knife) was inserted in the haft. On the other hand the sample from Peers Cave is small and unreliable, and the different shapes and especially the large range of sizes of the points rather suggest that the Peers Cave bifacial points have had multiple functions. Some of the smallest bifacial points in the collection are only 3-4cm long and 2-2,5cm wide and could be seen as too small for being a spear armature. The small size would rather suggest the function of some sort of projectile points. Another example is the different shaped bifacials like the one in figure 28, which would not have been very functional as a tip for a spear or projectile. The bifacial have an oval shape and two notches on one lateral edge, this could have been intentional or edge damage. The shape and the notching suggest that the lateral edge was the business, and could have functioned as a scarper, cutting tool or a multifunctional tool. The tip of the bifacial almost looks like a wide borer, or it could simply have been worked this way to fit in a haft.

The Still Bay points from Peers Cave suggest various functions, however this issue need more research, and the bias of the collection must be kept in mind.

4.4 Value of the Peers Cave collection and future possibilities

As shown, the scientific value of the Peers Cave collection has greatly dwindled through the years from when it was first excavated. Parts of the collection ended up in different museums and were given away to visitors and scientists. Even the early excavations them selves caused grave losses of artefacts. Not knowing what the sum of the collection represents, only knowing that a large amount of material is missing makes the collection somewhat unreliable. However the greatest loss of information lies in the poor marking and sorting of the collection, not knowing what layer/depth or even in some cases what site the artefacts deriver from makes it hard to formally study the lithic collection.

To restore the collection as it once was seems impossible, as there is no way of knowing where the lost material has ended up, except for the displayed artefacts in the Fish Hoek Valley Museum. Even a redate of Fish Hoek Man seems to be a needless effort, several attempt have already been made, putting it well within the LSA. And that the stratigraphy described by the Peers' can be questioned can along with the fact that the Still Bay point was not found with the skeleton, falsify the long supposed great antiquity of Fish Hoek Man.

Peers Cave has for a long time now been a public monument and together with Fish Hoek Vally Museum one could argue that the site has educational value, however the information regarding the displayed material and the cave at Fish Hoek Valley Museum could be somewhat updated. This seems to be were the story of the great Peers Cave ended.

I will on the other hand argue that the Peers Cave collection has, in spite of the flaws and shortcomings, some scientific value. This lithic study has shown that technological details concerning production and breakage patterns can be obtained through an analysis. This is epically possible concerning the typologically distinct material, that can easily be recognized in the assemblage as the Still Bay, Howiesons Poort and the LSA Wilton material. Several analytical methods like; use-wear, micro/macro fracture and residue analysis can provide information. There is even a possibility of scientifically dating the burnt lithics in the collection. However one must take in account that it is difficult to determine possible contaminations the material might hold.

Another important value of the Cave site is the possible undisturbed ESA deposits, probably underlying large amounts of disturbed material, but still holds possibilities for excavation.

4.5 Summary and conclusion

Through this thesis I have tried to unravel some of the mystery of Peers Cave, how it came to be that the promising and important site was forgotten and even ignored by present day researchers. By studying the early excavation reports, original illustrations, photographs and all later written descriptions of the site, it is evident that when it comes to mistakes, the list is long.

However, when studying the lithic collection from Peers Cave at Iziko South African Museum, the assemblage is in an even worse state then what the written records suggests. The assemblage does not correlate with the early descriptions in terms of the numerous diagnostic pieces like the Still Bay bifacial points and the Howiesons Poort segments. This issue was investigated, by making inquiries with Fish Hoek Valley Museum and the British Museum. The evidence suggests that the early descriptions of the collection were truthfully, only that some diagnostic artifacts have ended up in different museums and also in private collections. The early descriptions also briefly mention the use of explosives during the 1920's excavations, this issue on the other hand have been somewhat covered up. Explosive experts have insinuated that the damage and disturbance of the site would have been more comprehensive than what the excavation report states.

The research concerning the history and excavation of the site was important in order to understand what the present collection represents, and again to establish the possibilities for a formal technological analysis of the MSA lithic material.

The methodological approach of chaîne opératoire was tried on the material from the three different excavations. The analytical methods of typological and technological classification, refitting and macro fracture analysis was chosen to address the specific research questions; concerning the presence of various lithic industries, the production, place of manufacture and intended function of the Still Bay points. The method had to be applied in various ways to the three different assemblages. Because of the poor state of the museum collection, the analysis only had some moderate success.

All the lithic material form the whole Peers excavation was studied trough typological classification. The Still Bay points and the associated material were then more formally studied by the observations of technological details and breakage patterns (presence of impact fractures and traces of hafting). No refitting analysis was conducted on this material, whereas the collection was poorly marked and sorted, and the associated debris seemed to be missing.

All the material from the Jolly excavation was also studied in this way, however the assemblage only held two bifacial points and was not very informative. There was also

conducted a refitting analysis of a sample from this collection. There were no refits, the sample was small and associated debris was scarce.

From the Anthony excavation, only a sample from trench 2 was formally studied. This was not Still Bay material, however typological and technological classification were made in order to establish what this MSA material mostly resembled. A refitting analysis was also conducted here, as the associated debris seemed to have been sampled during excavation. There was however no refits in this sample either, but the analysis provided several indications of disturbance in the upper and middle levels.

The typological and technological classification of the material verified the presence of the lithic industries from the early descriptions, The LSA Wilton industry, the MSA Howiesons Poort and the Still Bay. In addition there also seemed to be other possible industries present, Mossel Bay and/or MSA1 and a possible ESA phase.

The Peers Cave Still Bay points technological details were similar to what was found at Blombos Cave. The initial stages of the shaping of the bifacials seem to have been either creating a large suitable flake, or flake reduction of a cobble to a suitable shape was achieved both by hard hammer percussions. The later stage, the bifacial thinning of the points, the small removal scars with a diffuse negative bulb, suggests the use of a soft hammer.

As for the place of manufacture, there is not sufficient evidence that Peers Cave can be interpreted as a workshop for the bifacial points, like Blombos Cave. I was not able to find any bifacial thinning flakes in the assemblage, though these hardly would have been sampled during the early excavations. The unfinished bifacial points and possible rejects can suggest that the place of manufacture was the cave site. However the lack of cores and debitage in the non-local silcrete or fine grained quartzite rather suggest that the material was already worked to some degree when brought to the site.

Little is known of the function of the bifacial points, and several theories have been suggested. The breakage patterns and the traces of hafting on the Still Bay points from Peers Cave are similar to what was found at Blombos Cave, and indicate a use as spear armatures. On the other hand the different size and shapes of the points also suggest other functions as projectile points or knife/cutting tools. If the Peers Cave Still Bay points has functioned as symbols, is uncertain, but the theory can not be excluded.

As shown the Peers Cave lithic collection still holds some scientific value, if the bias of the assemblage is taken into account. The Cave site undoubtedly deserved the world fame it once had, not because of Fish Hoek Man, but for the rich and plentiful Stone Age deposits. Peers Cave would probably have been one of the most important sites in South Africa, just as

significant as Klasies River or Blombos Cave today had it only been discovered a little later. The Cave should definitely not be forgotten, but stand as an example of how important knowledge and information can be lost when simple mistakes are made. Not to mention the importance of the preservation of untouched sites for the future.

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